MC 87-I-33 D(P)

PRELIMINARY REPORT
INDUSTRY SERIES

1987 Census of Manufactures

MC87-I-33D(P)
Issued August 1989

NONFERROUS METAL MILLS AND MISCELLANEOUS PRIMARY METAL PRODUCTS

Industries 3351, 3353, 3354, 3355, 3356, 3357, 3398, and 3399

INTRODUCTION

This report presents preliminary statistics from the 1987 Census of Manufactures for those establishments classified in the industries listed above. These data will be superseded by a more comprehensive final paperbound report. The method of data collection and use of administrative data are discussed in detail in the appendix.

All dollar figures included in this report are at prices current for the year specified and, therefore, unadjusted for changes in price levels. Consequently, when making comparisons to prior years, users should take into consideration the inflation that has occurred.

The definitions of these industries are the same as those used in the 1987 Standard Industrial Classification (SIC) Manual.[1]

INDUSTRY 3351, COPPER ROLLING AND DRAWING

In the 1987 Census of Manufactures, Industry 3351, Copper Rolling and Drawing, had employment of 22.4 thousand. The employment figure was 4 percent below the 23.3 thousand reported in 1982.

The total value of shipments for establishments classified in this industry was $5.0 billion.

The cost of materials and services used by establishments in this industry amounted to $3.5 billion in 1987. Data on specific materials consumed appear in table 3.

INDUSTRY 3353, ALUMINUM SHEET, PLATE, AND FOIL

In the 1987 Census of Manufactures, Industry 3353, Aluminum Sheet, Plate, and Foil, had employment of 26.0 thousand. The employment figure was 6 percent below the 27.7 thousand reported in 1982.

The total value of shipments for establishments classified in this industry was $9.5 billion.

The cost of materials and services used by establishments in this industry amounted to $7.8 billion in 1987. Data on specific materials consumed appear in table 3.

INDUSTRY 3354, ALUMINUM EXTRUDED PRODUCTS

In the 1987 Census of Manufactures, Industry 3354, Aluminum Extruded Products, had employment of 29.9 thousand. The employment figure was 18 percent above the 25.4 thousand reported in 1982.

The total value of shipments for establishments classified in this industry was $4.2 billion.

The cost of materials and services used by establishments in this industry amounted to $2.9 billion in 1987. Data on specific materials consumed appear in table 3.

INDUSTRY 3355, ALUMINUM ROLLING AND DRAWING, N.E.C.

In the 1987 Census of Manufactures, Industry 3355, Aluminum Rolling and Drawing, N.E.C., had employment of 1.1 thousand. The employment figure was 58 percent below the 2.6 thousand reported in 1982. Compared with 1986, employment in 1987 decreased 35 percent. The

[1]**Standard Industrial Classification Manual: 1987.** For sale by Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402. Stock No. 041-001-00314-2.

Address inquiries to Bureau of the Census, Industry Division, Washington, DC 20233, or call **Jessica Young** (301) 763-7304.

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1986 data are based on the Bureau's annual survey of manufactures (ASM), which is a sample survey conducted each year between censuses.

The total value of shipments for establishments classified in this industry was $562.9 million.

The cost of materials and services used by establishments in this industry amounted to $457.9 million in 1987. Data on specific materials consumed appear in table 3.

INDUSTRY 3356, NONFERROUS ROLLING AND DRAWING, N.E.C.

In the 1987 Census of Manufactures, Industry 3356, Nonferrous Rolling and Drawing, N.E.C., had employment of 17.9 thousand. The employment figure was 10 percent below the 20.0 thousand reported in 1982.

The total value of shipments for establishments classified in this industry was $3.0 billion.

The cost of materials and services used by establishments in this industry amounted to $1.8 billion in 1987. Data on specific materials consumed appear in table 3.

INDUSTRY 3357, NONFERROUS WIREDRAWING AND INSULATING

In the 1987 Census of Manufactures, Industry 3357, Nonferrous Wiredrawing and Insulating, had employment of 64.6 thousand. The employment figure was 4 percent below the 67.6 thousand reported in 1982. Compared with 1986, employment in 1987 increased 9 percent. The 1986 data are based on the Bureau's annual survey of manufactures (ASM), which is a sample survey conducted each year between censuses.

The total value of shipments for establishments classified in this industry was $10.7 billion.

The cost of materials and services used by establishments in this industry amounted to $6.6 billion in 1987. Data on specific materials consumed appear in table 3.

INDUSTRY 3398, METAL HEAT TREATING

In the 1987 Census of Manufactures, Industry 3398, Metal Heat Treating, had employment of 17.7 thousand. The employment figure was the same as reported in 1982.

The total value of shipments for establishments classified in this industry was $1.3 billion.

The cost of materials and services used by establishments in this industry amounted to $318.5 million in 1987. Data on specific materials consumed appear in table 3.

INDUSTRY 3399, PRIMARY METAL PRODUCTS, N.E.C.

In the 1987 Census of Manufactures, Industry 3399, Primary Metal Products, N.E.C., had employment of 14.3 thousand. The employment figure was 74 percent above the 8.2 thousand reported in 1982.

The total value of shipments for establishments classified in this industry was $1.6 billion.

The cost of materials and services used by establishments in this industry amounted to $876.3 million in 1987. Data on specific materials consumed appear in table 3.

ABBREVIATIONS AND SYMBOLS

The following abbreviations and symbols are used in the tables in this publication:

-	Represents zero.
(D)	Withheld to avoid disclosing data for individual companies; data are included in higher level totals.
(NA)	Not available.
(NC)	Not comparable.
(S)	Withheld because estimate did not meet publication standards on the basis of either the response rate or a consistency review.
(X)	Not applicable.
(Z)	Less than half the unit shown.
do	Ditto.
n.e.c.	Not elsewhere classified.
n.s.k.	Not specified by kind.
pt.	Part.
r	Revised.
SIC	Standard Industrial Classification.

Other abbreviations, such as lb, gal, yd, doz, bbl, and s tons, are used in the customary sense.

CONTACTS FOR DATA USERS

Subject Area	Contact	Phone
Census/ASM		
Durables	Kenneth Hansen	(301) 763-7304
Nondurables	Michael Zampogna	(301) 763-2510
Current Industrial Reports		
Durables	Malcolm Bernhardt	(301) 763-2518
Nondurables	Thomas Flood	(301) 763-5911
Import/Export Publications	Foreign Trade Division	(301) 763-5140
Industry Analysis and Forecasts	International Trade Administration	(202) 377-4356

Table 1. Historical Statistics for the Industry: 1987 and Earlier Years

[Excludes data for auxiliaries. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendix.]

Year[1]	Companies[2] (no.)	All establishments[3] Total (no.)	All establishments[3] With 20 employees or more (no.)	All employees Number (1,000)	All employees Payroll (million dollars)	Production workers Number (1,000)	Production workers Hours (millions)	Production workers Wages (million dollars)	Value added by manufacture[4] (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories[4] (million dollars)	Ratios Specialization (percent)	Ratios Coverage (percent)
INDUSTRY 3351, COPPER ROLLING AND DRAWING															
1987 Census	(NA)	121	91	22.4	582.6	17.4	36.5	413.3	1 555.9	3 531.3	4 993.3	88.3	772.1	(NA)	(NA)
1986 ASM	(NA)	(NA)	(NA)	21.2	525.1	16.5	34.2	378.1	1 182.1	2 629.7	3 820.6	65.1	542.3	(NA)	(NA)
1985 ASM	(NA)	(NA)	(NA)	22.4	517.8	17.1	34.5	367.1	1 061.2	2 611.2	3 671.8	132.0	540.8	(NA)	(NA)
1984 ASM	(NA)	(NA)	(NA)	23.4	554.3	18.0	37.8	399.1	1 285.7	2 817.5	4 020.2	110.0	592.1	(NA)	(NA)
1983 ASM	(NA)	(NA)	(NA)	22.8	511.2	17.1	33.9	357.5	1 189.2	2 663.5	3 855.1	94.0	568.6	(NA)	(NA)
1982 Census	102	137	95	23.3	468.2	17.2	32.6	322.9	957.7	2 267.0	3 270.0	123.9	557.1	90	95
1981 ASM	(NA)	(NA)	(NA)	31.2	615.6	23.8	47.5	444.4	1 244.3	3 524.3	4 783.6	104.1	542.9	(NA)	(NA)
1980 ASM	(NA)	(NA)	(NA)	31.0	573.7	23.6	47.9	411.1	1 108.2	3 723.4	4 839.2	79.5	548.8	(NA)	(NA)
1979 ASM	(NA)	(NA)	(NA)	35.8	624.1	28.1	57.2	458.3	1 343.8	4 014.4	5 332.5	91.9	586.7	(NA)	(NA)
1978 ASM	(NA)	(NA)	(NA)	33.3	513.4	25.9	52.7	383.3	1 169.3	2 966.1	4 090.5	71.2	496.3	(NA)	(NA)
1977 Census	101	140	99	31.3	455.5	24.2	50.5	338.7	973.7	3 019.9	4 013.8	64.4	472.1	85	92
1976 ASM	(NA)	(NA)	(NA)	34.1	460.3	26.5	54.9	336.5	979.0	2 843.2	3 779.6	63.2	492.0	(NA)	(NA)
1975 ASM	(NA)	(NA)	(NA)	32.2	383.8	24.0	46.8	270.0	691.7	2 160.1	2 873.7	55.6	431.5	(NA)	(NA)
1974 ASM	(NA)	(NA)	(NA)	37.8	437.8	29.5	61.2	325.3	1 000.2	3 489.7	4 493.7	54.4	415.1	(NA)	(NA)
1973 ASM	(NA)	(NA)	(NA)	39.9	434.9	31.8	67.3	330.6	1 022.1	2 950.4	3 964.6	51.7	379.8	(NA)	(NA)
1972 Census	101	149	117	37.8	383.7	29.9	63.2	288.4	800.3	2 313.8	3 098.8	65.3	327.7	89	93
INDUSTRY 3353, ALUMINUM SHEET, PLATE, AND FOIL															
1987 Census	(NA)	54	44	26.0	912.3	19.8	40.2	658.9	1 789.9	7 841.1	9 496.8	439.2	2 104.7	(NA)	(NA)
1986 ASM	(NA)	(NA)	(NA)	26.7	910.7	20.4	39.7	670.0	2 240.1	6 523.6	8 699.4	439.4	1 862.5	(NA)	(NA)
1985 ASM	(NA)	(NA)	(NA)	26.9	926.6	20.8	42.0	689.0	1 797.7	6 382.5	8 424.8	348.0	1 806.4	(NA)	(NA)
1984 ASM	(NA)	(NA)	(NA)	26.9	914.5	21.0	41.6	695.9	1 720.9	7 222.7	9 118.8	359.3	2 126.6	(NA)	(NA)
1983 ASM	(NA)	(NA)	(NA)	28.1	907.4	21.9	42.9	697.8	1 503.9	6 859.9	8 453.5	296.9	2 295.7	(NA)	(NA)
1982 Census[5]	39	56	43	27.7	862.1	21.0	39.9	639.9	1 154.0	5 898.4	7 213.8	260.4	2 300.2	95	99
1981 ASM	(NA)	(NA)	(NA)	32.0	950.6	24.7	49.0	717.7	1 883.7	7 241.7	8 866.9	357.7	2 528.1	(NA)	(NA)
1980 ASM	(NA)	(NA)	(NA)	32.7	867.4	25.4	50.8	658.6	1 752.0	6 651.3	8 122.0	402.5	2 201.0	(NA)	(NA)
1979 ASM	(NA)	(NA)	(NA)	34.2	814.9	27.0	55.1	636.0	1 871.7	6 198.2	7 990.9	326.0	1 850.6	(NA)	(NA)
1978 ASM	(NA)	(NA)	(NA)	30.9	733.8	26.9	53.1	567.3	1 853.0	5 612.4	7 349.1	219.1	1 742.6	(NA)	(NA)
1977 Census	30	53	45	31.4	613.5	25.0	50.6	480.1	1 340.6	4 900.5	5 924.0	157.7	1 625.2	92	99
1976 ASM	(NA)	(NA)	(NA)	30.3	529.2	24.1	48.2	413.9	1 176.2	4 266.1	5 353.1	134.8	1 337.1	(NA)	(NA)
1975 ASM	(NA)	(NA)	(NA)	28.1	433.5	21.3	39.9	320.7	975.4	2 947.3	3 720.8	132.2	1 206.0	(NA)	(NA)
1974 ASM	(NA)	(NA)	(NA)	33.0	468.5	26.0	52.8	360.5	1 409.6	3 017.2	4 227.5	108.3	1 001.5	(NA)	(NA)
1973 ASM	(NA)	(NA)	(NA)	33.5	432.2	26.6	56.3	329.8	930.9	2 378.3	3 309.6	52.2	669.9	(NA)	(NA)
1972 Census	25	50	49	31.3	370.7	24.5	51.8	281.5	692.3	2 017.1	2 685.2	90.3	653.2	85	99
INDUSTRY 3354, ALUMINUM EXTRUDED PRODUCTS															
1987 Census	(NA)	202	160	29.9	718.4	22.9	48.8	490.7	1 344.9	2 866.7	4 191.5	113.8	531.6	(NA)	(NA)
1986 ASM	(NA)	(NA)	(NA)	28.4	658.4	21.8	45.6	451.1	1 102.9	2 461.2	3 573.6	109.0	404.2	(NA)	(NA)
1985 ASM	(NA)	(NA)	(NA)	29.1	639.0	22.7	47.3	450.3	1 173.8	2 364.1	3 575.7	120.6	491.8	(NA)	(NA)
1984 ASM	(NA)	(NA)	(NA)	28.2	607.8	22.1	45.6	435.7	1 194.1	2 566.1	3 718.7	125.0	547.7	(NA)	(NA)
1983 ASM	(NA)	(NA)	(NA)	26.0	538.4	20.1	40.9	379.9	915.6	2 193.7	3 057.3	96.8	587.6	(NA)	(NA)
1982 Census	134	193	151	25.4	499.0	19.3	38.0	344.1	859.3	1 778.5	2 673.1	114.7	489.7	89	91
1981 ASM	(NA)	(NA)	(NA)	26.5	501.9	20.2	40.9	349.0	940.9	2 002.4	2 939.0	80.2	482.5	(NA)	(NA)
1980 ASM	(NA)	(NA)	(NA)	27.6	472.7	21.1	41.9	334.5	951.8	1 933.1	2 870.6	76.2	443.3	(NA)	(NA)
1979 ASM	(NA)	(NA)	(NA)	28.6	455.7	22.6	46.0	334.2	989.0	1 850.0	2 826.0	63.1	409.4	(NA)	(NA)
1978 ASM	(NA)	(NA)	(NA)	28.5	411.1	22.8	46.8	303.5	830.9	1 606.8	2 414.0	50.8	389.0	(NA)	(NA)
1977 Census	133	193	146	26.5	355.9	21.2	44.0	264.1	678.6	1 386.1	2 050.0	48.2	337.2	88	92
1976 ASM	(NA)	(NA)	(NA)	24.1	290.5	19.0	38.5	205.4	566.3	1 046.7	1 588.4	30.4	298.6	(NA)	(NA)
1975 ASM	(NA)	(NA)	(NA)	20.8	226.7	16.0	31.7	157.5	464.5	746.5	1 226.4	29.1	238.7	(NA)	(NA)
1974 ASM	(NA)	(NA)	(NA)	27.7	283.7	22.3	44.6	207.4	722.2	981.7	1 857.3	42.9	275.3	(NA)	(NA)
1973 ASM	(NA)	(NA)	(NA)	30.0	280.2	24.0	49.6	207.7	542.8	797.0	1 337.8	39.2	197.3	(NA)	(NA)
1972 Census	133	180	128	27.7	239.2	22.1	45.4	174.1	427.6	662.9	1 078.3	32.6	175.9	85	88
INDUSTRY 3355, ALUMINUM ROLLING AND DRAWING, N.E.C.															
1987 Census	(NA)	30	15	1.1	31.0	.8	1.7	21.7	126.1	457.0	562.9	4.1	64.9	(NA)	(NA)
1986 ASM	(NA)	(NA)	(NA)	1.7	51.5	1.3	2.7	35.4	122.7	481.6	613.7	7.5	71.1	(NA)	(NA)
1985 ASM	(NA)	(NA)	(NA)	2.0	55.0	1.5	3.1	38.0	168.8	599.3	783.4	13.2	86.4	(NA)	(NA)
1984 ASM	(NA)	(NA)	(NA)	1.9	56.0	1.5	2.9	39.0	166.7	702.0	905.2	13.8	95.6	(NA)	(NA)
1983 ASM	(NA)	(NA)	(NA)	2.2	57.9	1.6	3.2	40.7	139.3	725.9	844.3	9.0	135.2	(NA)	(NA)
1982 Census	24	27	15	2.6	65.0	1.9	3.5	44.2	30.7	535.3	670.8	5.5	117.3	77	7
1981 ASM	(NA)	(NA)	(NA)	4.9	118.3	3.7	7.3	83.1	490.6	895.4	1 323.2	23.8	380.3	(NA)	(NA)
1980 ASM	(NA)	(NA)	(NA)	5.1	111.7	3.9	7.7	80.3	545.9	982.7	1 486.8	22.8	267.0	(NA)	(NA)
1979 ASM	(NA)	(NA)	(NA)	5.1	107.8	3.9	7.9	78.0	383.8	934.9	1 310.6	40.0	214.6	(NA)	(NA)
1978 ASM	(NA)	(NA)	(NA)	5.0	94.6	3.9	7.6	69.1	239.3	934.5	1 152.5	26.8	194.2	(NA)	(NA)
1977 Census	18	22	15	4.7	78.1	3.6	6.9	56.5	222.8	754.9	1 001.0	16.1	169.5	91	13
1976 ASM	(NA)	(NA)	(NA)	4.2	65.9	3.1	6.1	47.3	162.7	408.0	546.6	17.1	170.5	(NA)	(NA)
1975 ASM	(NA)	(NA)	(NA)	3.9	54.3	2.8	5.1	36.2	142.1	323.6	431.9	18.0	161.8	(NA)	(NA)
1974 ASM	(NA)	(NA)	(NA)	4.8	62.0	3.8	7.4	45.6	137.1	432.3	542.4	17.8	114.3	(NA)	(NA)
1973 ASM	(NA)	(NA)	(NA)	4.8	58.0	3.9	8.1	42.5	113.6	334.0	430.5	7.9	83.8	(NA)	(NA)
1972 Census	14	16	15	4.6	48.0	3.6	7.2	35.1	57.3	272.2	343.4	9.2	65.7	86	10

See footnotes at end of table.

Table 1. **Historical Statistics for the Industry: 1987 and Earlier Years**—Con.

[Excludes data for auxiliaries. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendix.]

Year[1]	Companies[2] (no.)	All establishments[3] Total (no.)	All establishments[3] With 20 employees or more (no.)	All employees Number (1,000)	All employees Payroll (million dollars)	Production workers Number (1,000)	Production workers Hours (millions)	Production workers Wages (million dollars)	Value added by manufacture[4] (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories[4] (million dollars)	Ratios Specialization (percent)	Ratios Coverage (percent)
INDUSTRY 3356, NONFERROUS ROLLING AND DRAWING, N.E.C.															
1987 Census	(NA)	171	93	17.9	527.4	11.8	25.2	308.3	1 165.8	1 831.5	2 982.1	96.1	1 062.3	(NA)	(NA)
1986 ASM	(NA)	(NA)	(NA)	18.3	523.0	11.9	24.0	298.7	1 137.8	1 901.5	3 008.2	74.7	1 127.5	(NA)	(NA)
1985 ASM	(NA)	(NA)	(NA)	18.9	508.2	11.8	23.5	285.1	1 086.4	1 920.9	3 034.4	91.7	1 111.3	(NA)	(NA)
1984 ASM	(NA)	(NA)	(NA)	18.2	474.4	11.4	23.2	269.5	1 009.1	2 061.0	3 103.7	91.1	958.5	(NA)	(NA)
1983 ASM	(NA)	(NA)	(NA)	18.9	466.3	12.0	22.7	260.2	1 049.8	2 299.1	3 323.8	99.3	1 064.2	(NA)	(NA)
1982 Census	144	169	91	20.0	472.2	12.6	24.0	263.7	993.3	2 293.9	3 418.3	134.4	1 070.2	94	92
1981 ASM	(NA)	(NA)	(NA)	19.7	435.2	13.1	26.1	258.0	1 351.0	2 467.3	3 884.4	145.0	742.2	(NA)	(NA)
1980 ASM	(NA)	(NA)	(NA)	20.3	420.6	14.0	28.4	256.8	1 387.7	2 610.9	3 922.0	72.0	765.7	(NA)	(NA)
1979 ASM	(NA)	(NA)	(NA)	19.0	358.3	13.5	28.1	223.8	1 039.8	2 392.9	3 348.7	47.6	656.3	(NA)	(NA)
1978 ASM	(NA)	(NA)	(NA)	18.2	300.2	12.9	26.4	189.3	756.0	2 061.7	2 747.4	58.9	514.9	(NA)	(NA)
1977 Census	153	173	86	17.2	260.2	12.0	24.7	158.7	569.0	2 000.4	2 596.5	34.3	477.5	94	89
1976 ASM	(NA)	(NA)	(NA)	17.1	237.2	12.3	24.2	144.6	613.4	1 310.9	1 906.5	71.5	441.5	(NA)	(NA)
1975 ASM	(NA)	(NA)	(NA)	17.9	228.6	12.8	24.4	139.3	584.6	1 295.6	1 826.2	73.3	433.4	(NA)	(NA)
1974 ASM	(NA)	(NA)	(NA)	20.5	238.4	15.1	30.6	154.0	634.8	1 376.7	1 970.6	91.0	366.7	(NA)	(NA)
1973 ASM	(NA)	(NA)	(NA)	20.1	211.3	14.9	30.5	135.7	493.3	1 070.8	1 578.0	29.2	299.1	(NA)	(NA)
1972 Census	136	167	97	19.1	184.2	12.7	25.8	114.1	374.1	892.0	1 244.6	24.3	300.1	84	87
INDUSTRY 3357, NONFERROUS WIREDRAWING AND INSULATING															
1987 Census	(NA)	482	352	64.6	1 501.5	48.3	99.0	1 009.1	4 168.6	6 591.4	10 658.5	236.6	1 562.8	(NA)	(NA)
1986 ASM	(NA)	(NA)	(NA)	59.0	1 352.5	44.3	89.9	898.6	3 309.8	5 743.8	9 055.8	219.6	1 330.1	(NA)	(NA)
1985 ASM	(NA)	(NA)	(NA)	64.4	1 411.4	47.9	96.1	934.1	3 427.0	5 706.4	9 217.4	308.4	1 338.3	(NA)	(NA)
1984 ASM	(NA)	(NA)	(NA)	68.5	1 460.2	51.7	102.8	981.3	3 461.7	5 954.3	9 323.1	249.9	1 446.7	(NA)	(NA)
1983 ASM	(NA)	(NA)	(NA)	63.9	1 291.9	47.1	93.6	850.4	2 762.5	5 522.7	8 320.8	219.9	1 305.5	(NA)	(NA)
1982 Census	271	440	340	67.6	1 269.6	49.8	95.5	835.6	2 826.6	5 262.8	8 216.9	294.4	1 295.6	97	86
1981 ASM	(NA)	(NA)	(NA)	66.3	1 191.4	49.9	101.2	811.1	2 977.6	5 997.8	8 888.1	293.4	1 363.1	(NA)	(NA)
1980 ASM	(NA)	(NA)	(NA)	67.5	1 125.7	51.3	103.6	763.9	2 911.1	6 006.1	8 851.8	230.8	1 266.8	(NA)	(NA)
1979 ASM	(NA)	(NA)	(NA)	68.2	1 062.2	52.3	108.5	738.3	2 822.7	5 459.1	8 165.9	177.5	1 219.5	(NA)	(NA)
1978 ASM	(NA)	(NA)	(NA)	68.0	988.7	52.2	108.1	675.9	2 421.6	4 690.9	7 060.4	164.8	1 014.1	(NA)	(NA)
1977 Census	245	421	320	66.3	876.8	50.0	101.8	603.4	2 117.6	4 493.1	6 595.4	139.8	980.7	94	86
1976 ASM	(NA)	(NA)	(NA)	61.5	756.1	46.3	92.9	518.6	1 862.4	3 778.2	5 579.0	121.6	871.3	(NA)	(NA)
1975 ASM	(NA)	(NA)	(NA)	59.0	680.7	43.5	85.2	450.4	1 731.5	3 128.9	4 908.8	164.6	795.6	(NA)	(NA)
1974 ASM	(NA)	(NA)	(NA)	76.0	820.4	57.6	116.9	553.1	2 387.6	4 568.0	6 866.2	185.9	978.3	(NA)	(NA)
1973 ASM	(NA)	(NA)	(NA)	72.9	735.3	56.0	119.2	516.2	1 767.0	3 642.1	5 375.8	129.7	750.6	(NA)	(NA)
1972 Census	206	341	278	68.8	645.6	52.9	110.4	452.2	1 448.0	2 964.4	4 412.3	149.7	657.8	94	89
INDUSTRY 3398, METAL HEAT TREATING															
1987 Census	(NA)	714	291	17.7	413.8	13.2	27.5	260.2	999.7	318.5	1 319.0	80.5	90.1	(NA)	(NA)
1986 ASM	(NA)	(NA)	(NA)	18.6	411.9	14.3	29.9	273.4	973.5	406.0	1 381.7	84.6	52.5	(NA)	(NA)
1985 ASM	(NA)	(NA)	(NA)	18.4	382.9	14.2	28.9	255.3	958.6	388.5	1 309.6	79.4	48.6	(NA)	(NA)
1984 ASM	(NA)	(NA)	(NA)	18.0	373.7	13.7	28.0	252.9	918.4	520.1	1 397.0	71.3	47.4	(NA)	(NA)
1983 ASM	(NA)	(NA)	(NA)	16.9	314.9	12.5	24.6	210.5	691.7	377.9	1 064.1	26.8	102.9	(NA)	(NA)
1982 Census	669	758	288	17.7	324.2	13.5	26.9	216.6	684.5	416.0	1 128.2	42.5	98.1	(D)	(D)
1981 ASM	(NA)	(NA)	(NA)	17.8	321.2	14.0	28.0	210.6	872.2	370.2	1 190.6	52.3	75.8	(NA)	(NA)
1980 ASM	(NA)	(NA)	(NA)	16.7	310.5	14.6	28.9	204.4	809.1	342.6	1 150.3	42.5	78.0	(NA)	(NA)
1979 ASM	(NA)	(NA)	(NA)	18.0	283.3	14.2	29.2	191.1	639.2	404.5	1 030.0	42.6	88.8	(NA)	(NA)
1978 ASM	(NA)	(NA)	(NA)	17.7	262.0	14.0	30.8	180.5	617.2	383.2	995.8	41.7	74.1	(NA)	(NA)
1977 Census	682	753	273	16.9	220.1	13.3	27.6	147.9	466.8	281.9	744.9	42.2	69.0	(D)	(D)
1976 ASM	(NA)	(NA)	(NA)	14.8	187.0	10.8	25.8	124.0	399.9	192.4	592.5	25.6	41.5	(NA)	(NA)
1975 ASM	(NA)	(NA)	(NA)	14.4	185.0	10.4	25.0	121.5	375.4	179.6	556.5	24.3	57.1	(NA)	(NA)
1974 ASM	(NA)	(NA)	(NA)	15.5	179.0	11.5	27.6	121.3	391.3	150.6	539.2	18.8	29.5	(NA)	(NA)
1973 ASM	(NA)	(NA)	(NA)	16.8	171.8	13.2	27.3	116.6	343.2	161.7	504.6	19.5	27.1	(NA)	(NA)
1972 Census	886	952	266	17.2	157.3	13.4	27.4	106.6	310.6	159.1	467.4	23.1	36.2	(NA)	(NA)
INDUSTRY 3399, PRIMARY METAL PRODUCTS, N.E.C.															
1987 Census	(NA)	240	102	14.3	367.8	9.3	17.5	189.4	790.9	676.3	1 648.5	61.9	416.6	(NA)	(NA)
1986 ASM	(NA)	(NA)	(NA)	14.8	366.4	9.6	17.6	184.5	741.6	791.3	1 538.0	53.2	399.3	(NA)	(NA)
1985 ASM	(NA)	(NA)	(NA)	14.5	347.6	9.5	17.4	186.1	782.3	743.5	1 533.9	59.6	423.0	(NA)	(NA)
1984 ASM	(NA)	(NA)	(NA)	9.9	227.0	6.7	12.7	137.9	662.4	670.1	1 301.3	52.8	342.8	(NA)	(NA)
1983 ASM	(NA)	(NA)	(NA)	8.4	200.0	5.9	11.2	120.7	427.6	592.0	1 025.0	26.9	350.7	(NA)	(NA)
1982 Census	238	249	80	8.2	173.4	5.6	10.6	101.4	313.5	595.2	938.1	51.7	369.6	87	82
1981 ASM	(NA)	(NA)	(NA)	10.3	208.7	7.0	14.2	122.5	456.1	815.8	1 285.3	48.8	293.3	(NA)	(NA)
1980 ASM	(NA)	(NA)	(NA)	9.5	171.6	6.7	14.1	105.8	417.0	818.9	1 228.7	37.4	273.1	(NA)	(NA)
1979 ASM	(NA)	(NA)	(NA)	9.5	160.7	6.7	13.9	97.7	432.5	783.1	1 181.1	35.8	243.1	(NA)	(NA)
1978 ASM	(NA)	(NA)	(NA)	10.2	156.1	7.7	15.6	100.9	367.7	521.9	879.7	38.1	172.3	(NA)	(NA)
1977 Census	406	427	119	9.0	124.4	6.9	13.9	81.2	296.5	454.9	750.6	27.3	149.2	94	70
1976 ASM	(NA)	(NA)	(NA)	9.8	136.5	7.2	13.6	86.4	301.6	348.0	643.0	32.8	123.5	(NA)	(NA)
1975 ASM	(NA)	(NA)	(NA)	9.3	114.1	6.7	12.5	68.8	220.4	282.9	510.8	34.5	119.7	(NA)	(NA)
1974 ASM	(NA)	(NA)	(NA)	9.9	114.4	7.3	14.2	74.2	247.5	361.1	590.4	35.3	112.6	(NA)	(NA)
1973 ASM	(NA)	(NA)	(NA)	9.9	106.5	7.4	14.9	72.6	222.8	264.9	486.2	30.1	78.8	(NA)	(NA)
1972 Census	128	168	105	7.9	75.5	6.0	12.2	50.7	165.0	184.5	348.3	26.9	64.4	92	74

Note: Establishments of single unit companies with up to 20 employees (cutoff varied by industry[1]) were excluded from the mail portion of the census. Data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were estimated based on administrative-record information from other agencies in conjunction with industry averages. These establishments accounted for the following percent of total value of shipments: SIC 3351, 5%; SIC 3353, 1%; SIC 3354, 9%; SIC 3355, 22%; SIC 3356, 10%; SIC 3357, 12%; SIC 3398, 25%; and SIC 3399, 13%.

[1]In annual survey of manufactures (ASM) years, data are estimates based on a representative sample of establishments canvassed annually and may differ from results of a complete canvass of all establishments. ASM publication shows percentage standard errors. Unless otherwise noted, for data prior to 1972, see 1972 Census of Manufactures, vol. II, table 1a of the Industry chapter.

[2]For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

Table 1. **Historical Statistics for the Industry: 1987 and Earlier Years**—Con.

[3]Includes establishments with payroll at any time during year.
[4]Beginning with the 1982 Census of Manufactures, all respondents were requested to report their inventories at (the lower of) cost or market prior to adjustment to LIFO cost. This is a change from prior Censuses and annual surveys of manufactures in which respondents were permitted to value their inventories using any generally accepted accounting method. Consequently, inventories and value added by manufacture are not comparable to prior-year data.
[5]Data for 1982 are not directly comparable to prior-year data due to misclassification of some establishments in prior years. Historical data have not been revised because of the possibility of disclosing data for individual companies.
[6]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly receipts of contract and commission work on materials owned by others.
[7]Estimates for new capital expenditures has associated standard error of 15 percent or more and may be of limited reliability. Estimates of other data items are of acceptable reliability.

Table 2. Product and Product Classes—Quantity and Value of Shipments by All Producers: Part A. Industries 3351, 3353, 3354, 3355, 3356, and 3357

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers. Shipments in appendix. For meaning of abbreviations and symbols, see introductory text]

1987 product code	Product	1987							
		Number of companies with shipments of $100,000 or more	Quantity of total production	Product shipments[1]					
				Total, including interplant transfers		Commercial		Interplant transfers	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)	Quantity	Value (million dollars)
3351- —	**COPPER ROLLING AND DRAWING**								
	Total	**(NA)**	**(X)**	**(X)**	**4 508.9**	**(X)**	**(X)**	**(X)**	**(X)**
33511 —	Copper and copper-base alloy wire, bare and tinned (nonelectrical)	(NA)	(X)	(X)	323.8	(X)	(X)	(X)	(X)
33511 11	Unalloyed, 1,000 s tons	(NA)	75.2	73.6	180.6	(D)	(D)	(D)	(D)
33511 31	Alloyed, do.	(NA)	42.8	37.5	120.3	(D)	(D)	(D)	(D)
33511 00	Copper and copper-base alloy wire, bare and tinned (nonelectrical), n.s.k.	(NA)	(X)	(X)	22.9	(X)	(X)	(X)	(X)
33513 —	Copper and copper-base alloy rod, bar, and shapes	(NA)	(X)	(X)	1 763.4	(X)	(X)	(X)	(X)
33513 11	Unalloyed copper bars and shapes and nonelectrical rod, 1,000 s tons	(NA)	989.3	850.0	1 088.1	(D)	(D)	(D)	(D)
33513 32	Copper-base alloy rod, bar, and shapes, do.	(NA)	413.4	402.1	668.6	381.8	634.7	20.3	33.9
33513 00	Copper and copper-base alloy rod, bar, and shapes, n.s.k.	(NA)	(X)	(X)	6.7	(X)	(X)	(X)	(X)
33514 —	Copper and copper-base alloy sheet, strip, and plate	(NA)	(X)	(X)	1 015.1	(X)	(X)	(X)	(X)
33514 13	Unalloyed copper flat products (sheet, strip, plate, foil, etc.), 1,000 s tons	(NA)	150.4	144.0	288.2	391.2	850.9	71.5	149.2
33514 35	Copper-base alloy flat products (sheet, strip, plate, and foil) including military cups and discs (net weight), do.	(NA)	377.1	318.7	711.9				
33514 00	Copper and copper-base alloy sheet, strip, and plate, n.s.k.	(NA)	(X)	(X)	14.9	(X)	(X)	(X)	(X)
33515 —	Copper and copper-base alloy pipe and tube	(NA)	(X)	(X)	1 261.7	(X)	(X)	(X)	(X)
	Unalloyed:								
33515 16	Pipe and tube, plumbing, 1,000 s tons	(NA)	299.5	302.3	716.6	(D)	(D)	(D)	(D)
33515 18	Other pipe and tube, do.	(NA)	211.6	211.0	311.8	(D)	(D)	(D)	(D)
	Alloyed:								
33515 36	Pipe and tube, plumbing, 1,000 s tons	(NA)	17.0	15.4	50.4	(D)	(D)	(D)	(D)
33515 38	Other pipe and tube, do.	(NA)	32.2	37.6	118.9	37.6	118.9	(Z)	(Z)
33515 00	Copper and copper-base alloy pipe and tube, n.s.k.	(NA)	(X)	(X)	64.0	(X)	(X)	(X)	(X)
33510 —	Copper rolling and drawing, n.s.k.	(NA)	(X)	(X)	144.9	(X)	(X)	(X)	(X)
33510 00	Copper rolling and drawing, n.s.k., typically for establishments with 20 employees or more (see note)	(NA)	(X)	(X)	127.9	(X)	(X)	(X)	(X)
33510 02	Copper rolling and drawing, n.s.k., typically for establishments with less than 20 employees (see note)	(NA)	(X)	(X)	17.0	(X)	(X)	(X)	(X)
3353- —	**ALUMINUM SHEET, PLATE, AND FOIL**								
	Total	**(NA)**	**(X)**	**(X)**	**9 051.4**	**(X)**	**(X)**	**(X)**	**(X)**
33531 —	Aluminum plate (0.25 in. or more), including continuous cast:	(NA)	(X)	(X)	433.7	(X)	(X)	(X)	(X)
33531 13	Heat-treatable, 1,000 s tons	(NA)	96.1	82.0	274.0	120.3	389.7	13.3	32.8
33531 15	Nonheat-treatable, do.	(NA)	43.0	51.6	148.5				
33531 00	Aluminum plate, n.s.k.	–	(X)	(X)	11.2	(X)	(X)	(X)	(X)
33532 —	Aluminum sheet and strip, including continuous cast	(NA)	(X)	(X)	7 998.3	(X)	(X)	(X)	(X)
33532 23	Flat, heat-treatable, 1,000 s tons	(NA)	71.2	66.4	189.3				
33532 25	Flat, nonheat-treatable, bare and precoated (including only permanent finishes such as enameling and vinyl coating, but excluding coatings which are applied only for temporary protection), do.	(NA)	99.5	111.4	254.8	152.7	393.5	25.1	50.6
33532 27	Coiled, heat-treatable, do.	(NA)	982.2	648.2	1 219.8				
33532 31	Coiled, nonheat-treatable, bare, do.	(NA)	2 999.7	2 822.7	5 093.2	2 597.9	5 031.7	873.0	1 261.3
33532 33	Coiled, nonheat-treatable, precoated (including only permanent finishes such as enameling and vinyl coating, but excluding coatings which are applied only for temporary protection), do.	(NA)	569.3	613.6	1 193.9	472.7	972.4	140.9	221.5
33532 00	Aluminum sheet and strip, including continuous cast, n.s.k.	(NA)	(X)	(X)	47.4	(X)	(X)	(X)	(X)
33533 —	Plain aluminum foil:								
33533 00	Plain aluminum foil (less than .006 in.), 1,000 s tons	(NA)	256.7	249.0	546.6	(D)	(D)	(D)	(D)
33534 —	Aluminum welded tube:								
33534 00	Aluminum welded tube, 1,000 s tons	(NA)	(S)	(S)	40.6	(D)	(D)	(D)	(D)
33530 —	Aluminum sheet, plate, and foil, n.s.k.	(NA)	(X)	(X)	32.1	(X)	(X)	(X)	(X)
33530 00	Aluminum sheet, plate, and foil, n.s.k., typically for establishments with 10 employees or more (see note)	(NA)	(X)	(X)	28.6	(X)	(X)	(X)	(X)
33530 02	Aluminum sheet, plate, and foil, n.s.k., typically for establishments with less than 10 employees (see note)	(NA)	(X)	(X)	3.5	(X)	(X)	(X)	(X)

See footnotes at end of table.

of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see Value of

1987—Con.		1982										
				Product shipments[1]								
				Total, including interplant transfers		Commercial		Interplant transfers				
Quantity of shipments of products made from materials owned by others	Quantity produced and consumed in the same plant in the manufacture of other products	Number of companies with shipments of $100,000 or more	Quantity of total production	Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)	Quantity	Value (million dollars)	Quantity of shipments of products made from materials owned by others	Quantity produced and consumed in the same plant in the manufacture of other products	1987 product code
												3351– —
(X)	**(X)**	**(NA)**	**(X)**	**(X)**	**2 941.6**	**(X)**	**(X)**	**(X)**	**(X)**	**(X)**	**(X)**	
(X)	(X)	(NA)	(X)	(X)	346.4	(X)	(X)	(X)	(X)	(X)	(X)	33511 —
– (D)	(D) (D)	11 24	61.5 53.9	59.8 60.0	181.9 164.6	79.6	279.5	40.2	66.9	8.3	7.9	33511 11 33511 31
(X)	(X)	(NA)	(X)	(X)	–	(X)	(X)	(X)	(X)	(X)	(X)	33511 00
(X)	(X)	(NA)	866.3	697.0	921.0	476.2	635.5	220.8	285.5	(X)	(X)	33513 —
(D) 11.9	343.6 21.4	13 29	464.4 401.9	375.5 321.5	403.4 517.6	180.2 296.0	160.9 474.6	195.3 25.5	242.5 43.0	187.6	83.1	33513 11 33513 32
(X)	(X)	(NA)	(X)	(X)	–	(X)	(X)	(X)	(X)	(X)	(X)	33513 00
(X)	(X)	(NA)	(X)	(X)	800.8	(X)	(X)	(X)	(X)	(X)	(X)	33514 —
(D)	140.6	15 23	122.3 346.0	105.4 324.9	206.0 594.8	386.8	726.0	43.5	74.9	120.9	20.4	33514 13 33514 35
(X)	(X)	(NA)	(X)	(X)	–	(X)	(X)	(X)	(X)	(X)	(X)	33514 00
(X)	(X)	(NA)	(X)	(X)	845.0	(X)	(X)	(X)	(X)	(X)	(X)	33515 —
(D) –	(D) 28.6	14 13	223.6 76.6	*221.7 73.7	435.5 195.6	264.2	586.0	31.2	45.1	10.3	9.7	33515 16 33515 18
– 6	(D) 3	12 19	9.6 43.7	11.6 43.0	49.4 163.9	54.1	212.3	.5	1.0	6	7.1	33515 36 33515 38
(X)	(X)	(NA)	(X)	(X)	6	(X)	(X)	(X)	(X)	(X)	(X)	33515 00
(X)	(X)	(NA)	(X)	(X)	28.3	(X)	(X)	(X)	(X)	(X)	(X)	33510 —
(X)	(X)	(NA)	(X)	(X)	19.2	(X)	(X)	(X)	(X)	(X)	(X)	33510 00
(X)	(X)	(NA)	(X)	(X)	9.1	(X)	(X)	(X)	(X)	(X)	(X)	33510 02
												3353– —
(X)	**(X)**	**(NA)**	**(X)**	**(X)**	**6 519.7**	**(X)**	**(X)**	**(X)**	**(X)**	**(X)**	**(X)**	
(X)	(X)	(NA)	(X)	(X)	378.6	(X)	(X)	(X)	(X)	(X)	(X)	33531 —
– –	– –	7 7	72.0 49.3	69.3 50.4	246.6 132.0	(D) (D)	(D) (D)	(D) (D)	(D) (D)	(D) (D)	(D) (D)	33531 13 33531 15
(X)	(X)	(NA)	(X)	(X)	–	(X)	(X)	(X)	(X)	(X)	(X)	33531 00
(X)	(X)	(NA)	(X)	(X)	5 555.5	(X)	(X)	(X)	(X)	(X)	(X)	33532 —
–	–	8	38.9	35.6	119.0	141.0	315.0	12.5	28.1	2.0	6.0	33532 23 33532 25
–	–	10	120.1	117.9	224.0							
(D) (D)	(Z) 59.0	10 16	514.0 2 065.0	442.3 1 511.9	812.3 3 560.6	258.6 1 094.6	528.5 2 831.4	183.7 417.3	283.7 729.2	(D) (D)	15.7	33532 27 33532 31 33532 33
(D)	(D)	14	364.9	370.1	826.3	277.8	612.4	92.3	214.0	1.9	–	33532 00
(X)	(X)	(NA)	(X)	(X)	13.2	(X)	(X)	(X)	(X)	(X)	(X)	33533 —
–	11.1	12	245.3	240.4	545.1	(D)	(D)	(D)	(D)	(D)	(D)	33533 00
–	–	6	12.4	12.6	29.8	(D)	(D)	(D)	(D)	–	–	33534 — 33534 00
(X)	(X)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(X)	(X)	33530 —
(X)	(X)	(NA)	(X)	(X)	7.2	(X)	(X)	(X)	(X)	(X)	(X)	33530 00
(X)	(X)	(NA)	(X)	(X)	3.6	(X)	(X)	(X)	(X)	(X)	(X)	33530 02

Table 2. Product and Product Classes—Quantity and Value of Shipments by All Producers: Part A. Industries 3351, 3353, 3354, 3355, 3356, and 3357—Con.

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers Shipments in appendix. For meaning of abbreviations and symbols, see introductory text]

1987 product code	Product	1987						
				Product shipments[1]				
		Number of companies with shipments of $100,000 or more	Quantity of total production	Total, including interplant transfers		Commercial		Interplant transfers
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)	Quantity	Value (million dollars)
3354- —	**ALUMINUM EXTRUDED PRODUCTS**							
	Total	**(NA)**	**(X)**	**(X)**	**3 744.3**	**(X)**	**(X)**	**(X)**	**(X)**
33541 --	Extruded aluminum rod, bar, and other extruded shapes	(NA)	(X)	(X)	3 003.8	(X)	(X)	(X)	(X)
	Extruded rod and bar:								
33541 15	Alloys, other than 2000 and 7000 series, 1,000 s tons	(NA)	196.1	196.6	462.6	185.6	440.8	11.0	21.8
33541 18	Alloys in 2000 and 7000 series, do	(NA)	165.1	159.9	349.4	105.6	270.3	54.3	79.1
	Other extruded shapes, except tube:								
33541 25	Alloys, other than 2000 and 7000 series, 1,000 s tons	(NA)	723.7	739.3	1 561.1	805.5	1 848.5	47.2	106.9
33541 28	Alloys in 2000 and 7000 series, do	(NA)	112.4	113.4	394.3				
33541 00	Extruded aluminum rod, bar, and other extruded shapes, n.s.k.	(NA)	(X)	(X)	236.4	(X)	(X)	(X)	(X)
33542 --	Aluminum extruded and drawn tube	(NA)	(X)	(X)	472.7	(X)	(X)	(X)	(X)
	Aluminum tube and other extruded and drawn products:								
33542 61	Alloys in 2000 and 7000 series, 1,000 s tons	(NA)	190.3	*152.7	385.0	166.6	447.0	3.1	5.7
33542 63	Alloys other than 2000 and 7000 series, do	(NA)	(S)	(S)	67.7				
33542 00	Aluminum extruded and drawn tube, n.s.k.	(NA)	(X)	(X)	20.0	(X)	(X)	(X)	(X)
33540 --	Aluminum extruded products, n.s.k.	(NA)	(X)	(X)	267.7	(X)	(X)	(X)	(X)
33540 00	Aluminum extruded products, n.s.k., typically for establishments with 10 employees or more (see note)	(NA)	(X)	(X)	254.0	(X)	(X)	(X)	(X)
33540 02	Aluminum extruded products, n.s.k., typically for establishments with less than 10 employees (see note)	(NA)	(X)	(X)	13.7	(X)	(X)	(X)	(X)
3355- —	**ALUMINUM ROLLING AND DRAWING, N.E.C.**								
	Total	**(NA)**	**(X)**	**(X)**	**1 099.4**	**(X)**	**(X)**	**(X)**	**(X)**
33551 --	Aluminum and aluminum-base alloy wire and cable, except covered or insulated (including ACSR), produced in aluminum rolling mills (see also code 33571)	(NA)	(X)	(X)	111.4	(X)	(X)	(X)	(X)
	Wire and cable (except insulated):								
33551 11	Bare wire for electrical transmission, 1,000 s tons	(NA)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
33551 51	Bare wire, other than for electrical transmission, do	(NA)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
33551 61	Aluminum cable, steel reinforced (ACSR) (gross weight), do	–	–	–	–	–	–	–	–
33551 65	Other aluminum cable, bare, do	(NA)	(D)	(D)	(D)	(D)	(D)	–	–
33551 00	Aluminum and aluminum-base alloy wire and cable, except covered or insulated (including ACSR), produced in aluminum rolling mills, n.s.k.	–	(X)	(X)	–	(X)	(X)	(X)	(X)
33552 --	Rolled aluminum rod, bar (including continuous cast), and structural shapes	(NA)	(X)	(X)	301.3	(X)	(X)	(X)	(X)
33552 22	Rolled, 1,000 s tons	(NA)	174.2	145.6	232.1	(D)	(D)	(D)	(D)
33552 25	Continuous cast, do	(NA)							
33552 00	Rolled aluminum rod, bar (including continuous cast), and structural shapes, n.s.k.	(NA)	(X)	(X)	69.2	(X)	(X)	(X)	(X)
33553 --	Aluminum ingot, produced in aluminum rolling mills (see also codes 33347 and 33417):								
33553 00	Aluminum ingot, except extrusion billet, 1,000 s tons	(NA)	1 493.5	233.7	325.9	(D)	(D)	(D)	(D)
33554 --	Aluminum extrusion billet, produced in aluminum rolling mills (see also codes 33348 and 33418):								
33554 00	Aluminum extrusion billet, 1,000 s tons	(NA)	(S)	(S)	281.9	111.6	153.4	98.4	128.5
33550 --	Aluminum rolling and drawing, n.e.c., n.s.k.	(NA)	(X)	(X)	78.9	(X)	(X)	(X)	(X)
33550 00	Aluminum rolling and drawing, n.e.c., n.s.k., typically for establishments with 10 employees or more (see note)	(NA)	(X)	(X)	65.8	(X)	(X)	(X)	(X)
33550 02	Aluminum rolling and drawing, n.e.c., n.s.k., typically for establishments with less than 10 employees (see note)	(NA)	(X)	(X)	13.1	(X)	(X)	(X)	(X)
3356- —	**NONFERROUS ROLLING AND DRAWING, N.E.C.**								
	Total	**(NA)**	**(X)**	**(X)**	**2 770.9**	**(X)**	**(X)**	**(X)**	**(X)**
33561 --	Nickel and nickel-base alloy mill shapes (including nickel-copper alloys)	(NA)	(X)	(X)	625.9	(X)	(X)	(X)	(X)
33561 61	Plate, sheet, and strip, excluding nickel-copper alloys, 1,000 s tons	(NA)	(D)	(D)	(D)	(D)	(D)	–	–
33561 64	Other nickel shapes, excluding nickel-copper alloys, do	(NA)	37.7	40.2	336.6	(D)	(D)	(D)	(D)
33561 65	Nickel-copper alloys, all shapes and forms, except wire, do	(NA)	(D)	(D)	(D)	(D)	(D)	–	–
33561 66	Nickel and nickel alloy wire, do	(NA)	1.3	1.3	17.1	(D)	(D)	(D)	(D)
33561 00	Nickel and nickel-base alloy mill shapes (including nickel-copper alloys), n.s.k.	(NA)	(X)	(X)	(D)	(X)	(X)	(X)	(X)
33562 --	Titanium mill shapes	(NA)	(X)	(X)	499.0	(X)	(X)	(X)	(X)
33562 72	Ingot, 1,000 s tons	(NA)	18.3	18.0	142.2	(D)	(D)	(D)	(D)
33562 74	Forging and extrusion billet, do	(NA)	(S)	(S)	130.5	(D)	(D)	(D)	(D)
33562 78	Wire, do	–	–	–	–	–	–	–	–
33562 79	Other titanium mill products (sheet, plate, tubing, bar, etc.), except wire, do	(NA)	(S)	(S)	199.0	(D)	(D)	(D)	(D)
33562 00	Titanium mill shapes, n.s.k.	(NA)	(X)	(X)	27.3	(X)	(X)	(X)	(X)

See footnotes at end of table.

of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see Value of

1987—Con.		1982									1987 product code
				Product shipments[1]							
				Total, including interplant transfers		Commercial		Interplant transfers			
Quantity of shipments of products made from materials owned by others	Quantity produced and consumed in the same plant in the manufacture of other products	Number of companies with shipments of $100,000 or more	Quantity of total production	Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)	Quantity	Value (million dollars)	Quantity of shipments of products made from materials owned by others	Quantity produced and consumed in the same plant in the manufacture of other products	
												3354— —
(X)	**(X)**	**(NA)**	**(X)**	**(X)**	**2 550.5**	**(X)**	**(X)**	**(X)**	**(X)**	**(X)**	**(X)**	
(X)	(X)	(NA)	(X)	(X)	2 100.4	(X)	(X)	(X)	(X)	(X)	(X)	33541 —
(D)	1.7	44	214.6	*219.4	472.6	258.0	590.0	39.5	82.4	(D)	(D)	33541 15
–	(D)	15	83.6	78.1	199.8							33541 18
87.4	3.6	70	504.7	493.2	1 100.3	575.9	1 336.1	29.4	48.7	(D)	(D)	33541 25
		17	112.9	112.1	284.4							33541 28
(X)	(X)	(NA)	(X)	(X)	43.2	(X)	(X)	(X)	(X)	(X)	(X)	33541 00
(X)	(X)	(NA)	(X)	(X)	430.1	(X)	(X)	(X)	(X)	(X)	(X)	33542 —
27.6	(D)	45	169.3	165.6	420.4	146.3	385.0	19.2	35.5	(D)	(D)	33542 61
												33542 63
(X)	(X)	(NA)	(X)	(X)	9.6	(X)	(X)	(X)	(X)	(X)	(X)	33542 00
(X)	(X)	(NA)	(X)	(X)	20.1	(X)	(X)	(X)	(X)	(X)	(X)	33540 —
(X)	(X)	(NA)	(X)	(X)	11.0	(X)	(X)	(X)	(X)	(X)	(X)	33540 00
(X)	(X)	(NA)	(X)	(X)	9.1	(X)	(X)	(X)	(X)	(X)	(X)	33540 02
												3355— —
(X)	**(X)**	**(NA)**	**(X)**	**(X)**	**919.1**	**(X)**	**(X)**	**(X)**	**(X)**	**(X)**	**(X)**	
(X)	(X)	(NA)	(X)	(X)	201.5	(X)	(X)	(X)	(X)	(X)	(X)	33551 —
–	–	4	(NA)	46.2	73.3	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	33551 11
–	–	6	(NA)	(D)	(D)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	33551 51
–	–	2	(NA)	(D)	(D)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	33551 61
–	–	1	(NA)	(D)	(D)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	33551 65
(X)	(X)	(NA)	(X)	(X)	–	(X)	(X)	(X)	(X)	(X)	(X)	33551 00
(X)	(X)	(NA)	(X)	(X)	285.5	(X)	(X)	(X)	(X)	(X)	(X)	33552 —
(D)	(D)	6	90.3	68.5	104.0	103.7	158.6	65.4	107.4	(D)	(D)	33552 22
											(D)	33552 25
(X)	(X)	(NA)	(X)	(X)	19.5	(X)	(X)	(X)	(X)	(X)	(X)	33552 00
												33553 —
1 324.7	(D)	9	(NA)	(D)	(D)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	33553 00
												33554 —
163.0	(D)	16	(NA)	(D)	(D)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	33554 00
(X)	(X)	(NA)	(X)	(X)	19.0	(X)	(X)	(X)	(X)	(X)	(X)	33550 —
(X)	(X)	(NA)	(X)	(X)	15.4	(X)	(X)	(X)	(X)	(X)	(X)	33550 00
(X)	(X)	(NA)	(X)	(X)	3.6	(X)	(X)	(X)	(X)	(X)	(X)	33550 02
												3356— —
(X)	**(X)**	**(NA)**	**(X)**	**(X)**	**3 305.0**	**(X)**	**(X)**	**(X)**	**(X)**	**(X)**	**(X)**	
(X)	(X)	(NA)	(X)	(X)	(NA)	(X)	(X)	(X)	(X)	(X)	(X)	33561 —
(D)	(D)	8	12.1	12.1	201.4	(D)	(D)	(D)	(D)	(D)	(D)	33561 61
(D)	(D)	12	25.0	25.0	301.8	(D)	(D)	(D)	(D)	(D)	(D)	33561 64
–	–	7	17.8	17.5	134.1	(D)	(D)	(D)	(D)	–	(D)	33561 65
–	–	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	33561 66
(X)	(X)	(NA)	(X)	(X)	–	(X)	(X)	(X)	(X)	(X)	(X)	33561 00
(X)	(X)	(NA)	(X)	(X)	(NA)	(X)	(X)	(X)	(X)	(X)	(X)	33562 —
–	(D)	9	14.9	14.3	128.2	(D)	(D)	(D)	(D)	–	.6	33562 72
(X)	(X)	7	12.8	12.8	165.9	(D)	(D)	(D)	(D)	(D)	(D)	33562 74
–	–	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	33562 78
(X)	(X)	18	16.8	17.9	315.1	(D)	(D)	(D)	(D)	(D)	(D)	33562 79
(X)	(X)	(NA)	(X)	(X)	–	(X)	(X)	(X)	(X)	(X)	(X)	33562 00

Table 2. Product and Product Classes—Quantity and Value of Shipments by All Producers: Part A. Industries 3351, 3353, 3354, 3355, 3356, and 3357—Con.

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers Shipments in appendix. For meaning of abbreviations and symbols, see introductory text]

1987 product code	Product		1987							
					Product shipments[1]					
					Total, including interplant transfers		Commercial		Interplant transfers	
			Number of companies with shipments of $100,000 or more	Quantity of total production	Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)	Quantity	Value (million dollars)
3356- —	**NONFERROUS ROLLING AND DRAWING, N.E.C.—Con.**									
33563 —	Precious metal mill shapes		(NA)	(X)	(X)	788.2	(X)	(X)	(X)	(X)
33563 61	Gold, excluding wire	1,000 troy ounces	(NA)	3 980.6	1 632.5	327.3	(D)	(D)	(D)	(D)
33563 63	Silver, excluding wire	do.	(NA)	56 412.8	54 609.1	216.9	(D)	(D)	(D)	(D)
33563 65	Platinum, excluding wire	do.	(NA)	(S)	(S)	2.3	(D)	(D)	(D)	(D)
33563 67	Other, excluding wire	do.	(NA)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
33563 81	Precious metal wire	do.	(NA)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
33563 00	Precious metal mill shapes, n.s.k.		(NA)	(X)	(X)	69.4	(X)	(X)	(X)	(X)
33569 —	All other nonferrous metal mill shapes		(NA)	(X)	(X)	678.5	(X)	(X)	(X)	(X)
33569 34	Magnesium and magnesium-base alloy mill shapes, including rod, bar, sheet, plate, etc.; excluding powder and wire	1,000 s tons	(NA)	(D)	(D)	(D)	(D)	(D)	-	-
	Lead and lead-base alloy mill shapes:									
33569 51	Plate, sheet, and strip	1,000 s tons	(NA)	15.8	16.4	16.1	16.4	16.1	-	-
33569 55	Pipe, tubing, traps, and bends	do.	(NA)	3.5	3.5	3.8	3.5	3.8	-	-
33569 59	Other rolled, drawn, or extruded lead products	do.	(NA)	21.9	21.3	56.5	21.3	56.5	-	-
33569 71	Zinc and zinc-base alloy mill shapes, including plate, sheet, strip, rods, bars, pipe, and tubing; excluding wire	do.	(NA)	(D)	(D)	(D)	(D)	(D)	-	-
33569 91	Other nonferrous wire, except copper, aluminum, nickel, titanium, and precious metals	do.	(NA)	11.9	5.7	35.6	(D)	(D)	(D)	(D)
	Other nonferrous metals - rolled, drawn, and extruded shapes, excluding wire:									
33569 94	Tungsten	1,000 s tons	(NA)	(S)	(S)	16.3	(D)	(D)	(D)	(D)
33569 96	Molybdenum	do.	(NA)	(S)	(S)	21.9	(D)	(D)	(D)	(D)
33569 98	Other	do.	(NA)	30.3	30.0	300.2	(D)	(D)	(D)	(D)
33569 00	All other nonferrous metal mill shapes, n.s.k.		(NA)	(X)	(X)	98.9	(X)	(X)	(X)	(X)
33590 —	Nonferrous rolling and drawing, n.e.c., n.s.k.		(NA)	(X)	(X)	179.4	(X)	(X)	(X)	(X)
33590 30	Rolled and drawn nonferrous metals, n.s.k., typically for establishments with 20 employees or more (see note)		(NA)	(X)	(X)	133.2	(X)	(X)	(X)	(X)
33590 32	Rolled and drawn nonferrous metals, n.s.k., typically for establishments with less than 20 employees (see note)		(NA)	(X)	(X)	46.2	(X)	(X)	(X)	(X)
3357- —	**NONFERROUS WIREDRAWING AND INSULATING**									
	Total		(NA)	(X)	(X)	10 267.3	(X)	(X)	(X)	(X)
33571 —	Aluminum and aluminum-base alloy wire and cable except covered or insulated (including ACSR) produced in nonferrous wiredrawing plants (see also code 33551)		(NA)	(X)	(X)	306.8	(X)	(X)	(X)	(X)
33571 11	Bare wire for electrical transmission	1,000 s tons	(NA)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
33571 31	Bare wire for other than electrical transmission	do.	(NA)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
33571 91	Aluminum cable, steel reinforced (ACSR) (gross weight)	do.	(NA)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
33571 99	Other aluminum cable, bare	do.	(NA)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
33571 00	Aluminum and aluminum-base alloy wire and cable except covered or insulated (including ACSR) produced in nonferrous wiredrawing plants, n.s.k.		(NA)	(X)	(X)	21.4	(X)	(X)	(X)	(X)
33572 —	Copper and copper-base alloy wire (including strand and cable), bare and tinned, for electrical transmission		(NA)	(X)	(X)	450.6	(X)	(X)	(X)	(X)
33572 21	Electrical wire rod	1,000 s tons	(NA)	(D)	(D)	(*)	(D)	(D)	(D)	(D)
33572 11	Bare wire, unalloyed, for electrical transmission	do.	(NA)	108.1	56.0	95.5	46.5	81.3	9.5	14.2
33572 31	Bare wire, alloyed, for electrical transmission	do.	(NA)	(S)	(S)	168.5	(D)	(D)	(D)	(D)
33572 71	Strand and cable, bare, for electrical transmission	do.	(NA)	151.4	83.5	195.6	(D)	(D)	(D)	(D)
33572 00	Copper and copper-base alloy wire (including strand and cable) bare and tinned, for electrical transmission, n.s.k.		(NA)	(X)	(X)	91.0	(X)	(X)	(X)	(X)
33573 —	Other bare nonferrous metal wire, made in nonferrous wiredrawing plants (see also code 33599?)									
33573 00	Other nonferrous metal wire, except insulated	1,000 s tons	(NA)	(S)	(S)	121.1	(D)	(D)	(D)	(D)
33575 —	Nonferrous wire cloth and other woven wire products made in nonferrous wiredrawing plants (see also code 34865)		(NA)	(X)	(X)	26.5	(X)	(X)	(X)	(X)
33575 17	Insect wire screening, nonferrous	mil sq. ft.	(NA)	(X)	(D)	(D)	(D)	(D)	-	-
33575 57	Paper machine wire cloth (fourdrinier and cylinder)	do.	(NA)	(X)					-	-
33575 95	Industrial wire cloth, nonferrous	do.	(NA)	(X)	(D)	(D)	(D)	(D)	-	-
33575 00	Nonferrous wire cloth and other woven wire products made in nonferrous wiredrawing plants, n.s.k.		(NA)	(X)	(X)	1.7	(X)	(X)	(X)	(X)
33576 —	Apparatus wire and cord and flexible cord sets (see also code 36599):									
33576 30	Apparatus wire and cordage and flexible cord sets (excluding wiring harnesses) (manufactured primarily from wire insulated in the same establishment) (for additional detail, see Current Industrial Report MA-33L, Insulated Wire and Cable)		(NA)	(X)	(X)	802.6	(X)	(X)	(X)	(X)
33577 —	Magnet wire:									
33577 30	Magnet wire (for additional detail, see Current Industrial Report MA-33L, Insulated Wire and Cable)		(NA)	(X)	(X)	987.4	(X)	(X)	(X)	(X)
33578 —	Power wire and cable:									
33578 30	Power wire and cable (for additional detail, see Current Industrial Report MA-33L, Insulated Wire and Cable)		(NA)	(X)	(X)	1 141.9	(X)	(X)	(X)	(X)

See footnotes at end of table.

of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see Value of

1987—Con.		1982										
				Product shipments[1]								
				Total, including interplant transfers		Commercial		Interplant transfers				
Quantity of shipments of products made from materials owned by others	Quantity produced and consumed in the same plant in the manufacture of other products	Number of companies with shipments of $100,000 or more	Quantity of total production	Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)	Quantity	Value (million dollars)	Quantity of shipments of products made from materials owned by others	Quantity produced and consumed in the same plant in the manufacture of other products	1987 product code
												3356– —
(X)	(X)	(NA)	(X)	(X)	(NA)	(X)	(X)	(X)	(X)	(X)	(X)	33563 —
(D)	(D)	17	2 441.5	2 142.1	720.1	(D)	(D)	(D)	(D)	(NA)	(NA)	33563 81
(D)	(D)	9	66 974.6	66 821.3	462.9	(D)	(D)	(D)	(D)	(NA)	(NA)	33563 83
(D)	(D)	4	18 901.6	8 825.5	77.4	(D)	(D)	(D)	(D)	(NA)	(NA)	33563 85
(D)	(D)										(NA)	33563 87
(D)	(D)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	33563 91
(X)	(X)	(NA)	(X)	(X)	1.2	(X)	(X)	(X)	(X)	(X)	(X)	33563 00
(X)	(X)	(NA)	(X)	(X)	(NA)	(X)	(X)	(X)	(X)	(X)	(X)	33569 —
												33569 34
–	–	8	33.6	33.4	90.5	(D)	(D)	(D)	(D)	8.1	(NA)	
												33569 51
(D)	(D)	9	19.7	33.6	24.1	33.6	24.1	–	–	(D)	–	
(D)	–	7	(D)	(D)	(D)	(D)	6.9	(D)	–	(D)	(Z)	33569 55
(D)	–	21	34.2	45.5	36.6	44.9	85.4	.5	1.3	(D)	.1	33569 59
												33569 71
(D)	(D)	3	(D)	(D)	(D)	(D)	(D)	–	–	(D)	(D)	
												33569 91
–	(D)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	
												33569 94
–	–	5	(Z)	*.1	7.9	.1	7.9	–	–	–	–	
–	–	4	.2	1.3	33.5	(D)	(D)	(D)	(D)	–	–	33569 96
–	(D)	14	22.6	22.6	311.9	22.6	311.9	–	–	(D)	(D)	33569 98
(X)	(X)	(NA)	(X)	(X)	.6	(X)	(X)	(X)	(X)	(X)	(X)	33569 00
(X)	(X)	(NA)	(X)	(X)	39.7	(X)	(X)	(X)	(X)	(X)	(X)	33560 —
												33560 00
(X)	(X)	(NA)	(X)	(X)	16.1	(X)	(X)	(X)	(X)	(X)	(X)	
												33560 02
(X)	(X)	(NA)	(X)	(X)	23.6	(X)	(X)	(X)	(X)	(X)	(X)	
												3357– —
(X)	**(X)**	**(NA)**	**(X)**	**(X)**	**8 188.1**	**(X)**	**(X)**	**(X)**	**(X)**	**(X)**	**(X)**	
												33571 —
(X)	(X)	(NA)	(X)	(X)	284.9	(X)	(X)	(X)	(X)	(X)	(X)	
												33571 11
47.4	(D)	8	(NA)	77.3	109.0	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	
(D)	(D)	9	(NA)	(D)	(D)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	33571 51
(D)	(D)	5	(NA)	(D)	(D)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	33571 61
(D)	–	4	(NA)	(D)	(D)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	33571 65
												33571 00
(X)	(X)	(NA)	(NA)	(X)	.5	(X)	(X)	(X)	(X)	(X)	(X)	
												33572 —
(X)	(X)	(NA)	(X)	(X)	402.3	(X)	326.4	(X)	75.9	(X)	(X)	
												33572 21
(D)	–	4	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	
76.1	12.7	15	151.5	59.9	114.2	43.6	88.7	16.3	25.5	9.0	77.4	33572 11
(D)	(D)	8	[3]102.6	[3]49.6	[3]74.8	[3]22.0	[3]37.7	[3]27.6	[3]37.1	[3]4.0	[3]30.6	33572 51
(D)	(D)	22	118.7	*68.0	155.4	58.5	142.1	9.2	13.3	16.2	21.4	33572 71
												33572 00
(X)	(X)	(NA)	(X)	(X)	57.9	(X)	(X)	(X)	(X)	(X)	(X)	
												33573 —
												33573 00
(X)	(X)	15	(NA)	*527.6	116.1	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	
												33575 —
(X)	(X)	(NA)	(NA)	(X)	39.1	(X)	(X)	(X)	(X)	(X)	(X)	
(X)	(X)	2	(NA)	(D)	(D)	(NA)	(NA)	(NA)	(NA)	–	–	33575 17
(X)	(X)	1	(NA)	(D)	(D)	(NA)	(NA)	(NA)	(NA)	–	–	33575 57
(X)	(X)	3	(NA)	(D)	(D)	(NA)	(NA)	(NA)	(NA)	–	–	33575 65
												33575 00
(X)	(X)	(NA)	(NA)	(X)	.2	(X)	(X)	(X)	(X)	(X)	(X)	
												33576 —
												33576 00
(X)	(X)	55	(X)	(X)	477.6	(X)	(X)	(X)	–	–	–	
												33577 —
												33577 00
(X)	(X)	41	(X)	(X)	747.0	(X)	(X)	(X)	–	–	–	
												33578 —
												33578 00
(X)	(X)	75	(X)	(X)	854.5	(X)	(X)	(X)	–	–	–	

Table 2. Product and Product Classes—Quantity and Value of Shipments by All Producers: Part A. Industries 3351, 3353, 3354, 3355, 3356, and 3357—Con.

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers Shipments in appendix. For meaning of abbreviations and symbols, see introductory text]

1987 product code	Product	1987							
		Number of companies with shipments of $100,000 or more	Quantity of total production	Product shipments[1]					
				Total, including interplant transfers		Commercial		Interplant transfers	
				Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)	Quantity	Value (million dollars)
3357- —	**NONFERROUS WIREDRAWING AND INSULATING —Con.**								
33579 —	Fiber optic cable	(NA)	(X)	(X)	507.3	(X)	(X)	(X)	(X)
33579 11	Communication (telephone, telegraph, and electronic)	(NA)	(X)	(X)	483.2	(X)	(X)	(X)	(X)
33579 21	All other uses	(NA)	(X)	(X)	(D)	(X)	(X)	(X)	(X)
33579 00	Fiber optic cable, n.s.k.	(NA)	(X)	(X)	(D)	(X)	(X)	(X)	(X)
3357A —	Electronic wire and cable:								
3357A 00	Electronic wire and cable (for additional detail, see Current Industrial Report MA-33L, Insulated Wire and Cable)	(NA)	(X)	(X)	1 505.3	(X)	(X)	(X)	(X)
3357B —	Telephone and telegraph wire and cable:								
3357B 00	Telephone and telegraph wire and cable (for additional detail, see Current Industrial Report MA-33L, Insulated Wire and Cable)	(NA)	(X)	(X)	1 461.4	(X)	(X)	(X)	(X)
3357C —	Control and signal wire and cable:								
3357C 00	Control and signal wire and cable (for additional detail, see Current Industrial Report MA-33L, Insulated Wire and Cable)	(NA)	(X)	(X)	178.0	(X)	(X)	(X)	(X)
3357D —	Building wire and cable:								
3357D 00	Building wire and cable (for additional detail, see Current Industrial Report MA-33L, Insulated Wire and Cable)	(NA)	(X)	(X)	1 856.7	(X)	(X)	(X)	(X)
3357E —	Other wire and cable, n.e.c.:								
3357E 00	Other wire and cable, including automotive (for additional detail, see Current Industrial Report MA-33L, Insulated Wire and Cable)	(NA)	(X)	(X)	505.9	(X)	(X)	(X)	(X)
33570 —	Nonferrous wiredrawing and insulating, n.s.k.	(NA)	(X)	(X)	716.9	(X)	(X)	(X)	(X)
33570 00	Nonferrous wiredrawing and insulating, n.s.k., typically for establishments with 20 employees or more (see note)	(NA)	(X)	(X)	575.9	(X)	(X)	(X)	(X)
33570 02	Nonferrous wiredrawing and insulating, n.s.k., typically for establishments with less than 20 employees (see note)	(NA)	(X)	(X)	141.0	(X)	(X)	(X)	(X)

of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see Value of

1987—Con.		1982										
				Product shipments[1]								
				Total, including interplant transfers		Commercial		Interplant transfers				
Quantity of shipments of products made from materials owned by others	Quantity produced and consumed in the same plant in the manufacture of other products	Number of companies with shipments of $100,000 or more	Quantity of total production	Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)	Quantity	Value (million dollars)	Quantity of shipments of products made from materials owned by others	Quantity produced and consumed in the same plant in the manufacture of other products	1987 product code
												3357- —
(X)	(X)	16	(X)	(X)	88.6	(X)	(X)	(X)	(X)	(X)	(X)	33579 —
(X)	(X)	9	-	(X)	83.9	(X)	(X)	-	-	-	-	33579 11
(X)	(X)	5	-	(X)	4.7	(X)	(X)	-	-	-	-	33579 21
(X)	(X)	(NA)	(X)	(X)	-	(X)	(X)	(X)	(X)	(X)	(X)	33579 00
												3357A —
(X)	(X)	132	(X)	(X)	1 304.4	(X)	(X)	(X)	-	-	-	3357A 00
												3357B —
(X)	(X)	75	(X)	(X)	1 815.2	(X)	(X)	(X)	-	-	-	3357B 00
												3357C —
(X)	(X)	60	(X)	(X)	248.8	(X)	(X)	(X)	-	-	-	3357C 00
												3357D —
(X)	(X)	69	(X)	(X)	1 083.6	(X)	(X)	(X)	-	-	-	3357D 00
												?357E —
(X)	(X)	86	(X)	(X)	550.6	(X)	(X)	(X)	-	-	-	3357E 00
(X)	(X)	(NA)	(X)	(X)	175.4	(X)	(X)	(X)	(X)	(X)	(X)	33570 —
(X)	(X)	(NA)	(X)	(X)	144.6	(X)	(X)	(X)	(X)	(X)	(X)	33570 00
(X)	(X)	(NA)	(X)	(X)	30.8	(X)	(X)	(X)	(X)	(X)	(X)	33570 02

Table 2. Product and Product Classes—Quantity and Value of Shipments by All Producers: 1987 and 1982—Con.

Part B. Industries 3398 and 3399

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see Value of Shipments in appendix. For meaning of abbreviations and symbols, see introductory text]

1987 product code	Product	1987			1982		
		Number of companies with shipments of $100,000 or more	Product shipments[1]		Number of companies with shipments of $100,000 or more	Product shipments[1]	
			Quantity[2]	Value (million dollars)		Quantity[2]	Value (million dollars)
3398– —	**METAL HEAT TREATING**						
	Total	**(NA)**	**(X)**	**1 307.5**	**(NA)**	**(X)**	**1 105.9**
33980 —	Heat treating of metal for the trade:						
33980 00	Heat treating, pickling, annealing, brazing, shot peening, tempering, etc., of metal for the trade	(NA)	(X)	1 270.0	(NA)	(X)	1 066.2
33980 02	Metal heat treating, n.s.k., typically for establishments with less than 10 employees	(NA)	(X)	37.5	(NA)	(X)	39.7
3399– —	**PRIMARY METAL PRODUCTS, N.E.C.**						
	Total	**(NA)**	**(X)**	**1 511.3**	**(NA)**	**(X)**	**959.0**
33991 —	Metal powders, paste, and flakes	(NA)	(X)	1 039.1	(NA)	(X)	799.1
33991 11	Aluminum and aluminum-base alloy, mil lb	(NA)	61.8	134.6	21	*181.0	155.3
33991 33	Copper and copper-base alloy, do	(NA)	*65.6	113.9	21	*38.7	64.9
33991 55	Iron and steel, do	(NA)	*474.1	177.3	25	*322.5	118.9
33991 66	Nickel-cobalt base superalloy materials, do	(NA)	(S)	33.2	9	4.1	54.2
33991 77	Tungsten and tungsten base alloys, do	(NA)	(S)	121.1	11	9.1	178.4
33991 86	Molybdenum, do	(NA)	2.8	30.7	4	1.5	21.9
33991 87	Titanium, do	(NA)	(S)	32.5	3	(4)	(4)
33991 88	Tantalum, do	(NA)			3	(4)	(4)
33991 91	Precious metals and precious metal base alloys (gold, silver, platinum, etc.), 1,000 troy ounces	(NA)	14.9	160.0	27	*79.1	*205.1
33991 98	Other nonferrous powders, paste, and flakes, mil lb	(NA)	113.3	139.8			
33991 00	Metal powders, paste, and flakes, n.s.k.	(NA)	(X)	96.0	(NA)	(X)	3
33992 —	Other primary metal products, n.e.c.	(NA)	(X)	311.9	(NA)	(X)	119.9
33992 11	Nonferrous nails, brads, tacks, and staples, 1,000 s tons	(NA)	(S)	188.4	10	(S)	24.4
33992 98	Other primary metal products, n.e.c.	(NA)	(X)	101.8	42	(X)	95.4
33992 00	Other primary metal products, n.e.c., n.s.k.	(NA)	(X)	21.8	(NA)	(X)	-
33990 —	Primary metal products, n.e.c., n.s.k.	(NA)	(X)	160.2	(NA)	(X)	40.0
33990 00	Primary metal products, n.e.c., n.s.k., typically for establishments with 10 employees or more (see note)	(NA)	(X)	152.6	(NA)	(X)	26.6
33990 02	Primary metal products, n.e.c., n.s.k., typically for establishments with less than 10 employees (see note)	(NA)	(X)	7.6	(NA)	(X)	13.4

Note: In 1987 Census of Manufactures, data for establishments of small single unit companies with up to 20 employees were estimated from administrative-record data rather than data actually collected from respondents. Employment cutoffs used for administrative records for each industry and shipments figures are included in code ending with "002". In both 1987 and 1982 Censuses of Manufactures, products not completely identified on standard forms were coded in appropriate product class (five-digit) followed by "00" or to appropriate product group code (four-digit) followed by "000".

[1]Data reported by all producers, not just those with shipments of $100,000 or more.
[2]For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * 10 to 19 percent estimated, ** 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).
[3]For 1987 and 1982, product code 33572 21 is combined with product code 33572 51 to avoid disclosing data of individual companies.
[4]For 1982, product codes 33991 87 and 33991 88 are combined with product code 33991 99 to avoid disclosing data for individual companies.

Table 3. Materials Consumed by Kind: 1987 and 1982

[Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see Cost of Materials in appendix. For meaning of abbreviations and symbols, see introductory text]

1987 material code	Material	1987		1982	
		Quantity[1]	Delivered cost (million dollars)	Quantity[1]	Delivered cost (million dollars)
	INDUSTRY 3351, COPPER ROLLING AND DRAWING				
	Materials, parts, containers, and supplies	**(X)**	**3 311.6**	**(X)**	**2 078.4**
	Nonferrous metals and alloys (ingot, pig, shot, etc.):				
333404	Aluminum, unalloyed, 1,000 s tons	12.5	17.4	8.7	17.8
333405	Aluminum-base alloys, do				
	Copper, unalloyed:				
333123	Cathodes, 1,000 s tons	775.5	804.8	192.8	247.8
333124	Wire bar, do	17.2	24.1	150.0	239.7
333126	Ingot and ingot bar, do	48.8	76.4		
333127	Other (including cakes, slabs, billets, etc.), do	192.2	313.0	117.1	186.3
	Copper-base alloy raw materials:				
333128	Ingot and ingot bar, 1,000 s tons	(D)	(D)	14.6	23.1
333129	Other (including billets, shot, waffle, hardeners, etc.), do	33.7	71.8	77.9	87.9
333984	Lead and lead-base alloys, do	2.2	1.6	3.6	2.0
333973	Magnesium and magnesium-base alloys, do	(D)	(D)	(D)	(D)
333971	Nickel and nickel-base alloys, do	1.8	9.9	2.3	13.7
333348	Zinc and zinc-base alloys, do	59.1	48.4	49.1	41.7
333981	Molybdenum and molybdenum-base alloys, mil lb	(D)	(D)	-	-
333983	Tin and tin-base alloys, do	*1.5	5.2	**1.1	7.6

See footnotes at end of table.

Table 3. **Materials Consumed by Kind: 1987 and 1982**—Con.

[Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see Cost of Materials in appendix. For meaning of abbreviations and symbols, see introductory text]

1987 material code	Material	1987 Quantity[1]	1987 Delivered cost (million dollars)	1982 Quantity[1]	1982 Delivered cost (million dollars)
	INDUSTRY 3351, COPPER ROLLING AND DRAWING—Con.				
	Nonferrous metals and alloys (ingot, pig, shot, etc.)—Con.				
333985	Vanadium and vanadium-base alloys ..... mil lb	–	–	(D)	(D)
333904	Precious metals and alloys (including gold, silver, and platinum metals) ..... 1,000 troy ounces	(D)	(D)	(D)	(D)
333909	Other nonferrous metals and alloys ..... 1,000 s tons	(D)	(D)		
	Nonferrous metal scrap, excluding home scrap:				
	Aluminum and aluminum-base alloys:				
190021	From other establishments of the same company ..... 1,000 s tons	–	–	(D)	(D)
190022	From all other sources ..... do	(D)	(D)	(D)	(D)
190025	Lead and lead-base alloys (including antimonial lead scrap) ..... do	(D)	(D)	(D)	(D)
190024	Copper and copper-base alloys ..... do	965.3	1 155.8	452.1	619.3
190026	Zinc and zinc-base alloys (including drosses and skimmings) ..... do	(D)	(D)	(D)	(D)
	Aluminum and aluminum-base alloy mill shapes (rod, bar, sheet, etc.), except castings:				
335301	Sheets, plates, and foil ..... mil lb	(D)	(D)	(D)	(D)
335405	Extruded shapes ..... do	(D)	(D)	(D)	(D)
335008	All other ..... do	(D)	(D)	(D)	(D)
335100	Brass mill shapes (rod, bar, sheet, etc.) ..... 1,000 s tons	70.2	113.6	49.9	80.6
970099	All other materials and components, parts, containers, and supplies	(X)	384.8	(X)	198.2
971000	Materials, parts, containers, and supplies, n.s.k.[2]	(X)	140.3	(X)	35.4
	INDUSTRY 3353, ALUMINUM SHEET, PLATE, AND FOIL				
	Materials, parts, containers, and supplies	**(X)**	**7 430.0**	**(X)**	**5 439.8**
	Nonferrous metals and alloys (ingot, pig, shot, etc.):				
333404	Aluminum, unalloyed ..... 1,000 s tons	1 641.3	2 061.4	1 360.7	1 861.8
333405	Aluminum-base alloys ..... do	1 996.0	2 584.2	967.8	1 421.1
	Copper, unalloyed:				
333126	Ingot and ingot bar ..... 1,000 s tons	–	–	(3)	(3)
333127	Other (including cakes, slabs, billets, etc.) ..... do	(D)	(D)	(3)	(3)
	Copper-base alloy raw materials:				
333128	Ingot and ingot bar ..... 1,000 s tons	(D)	(D)	(3)	(3)
333129	Other (including billets, shot, waffle, hardeners, etc.) ..... do	(D)	(D)	(3)	(3)
333973	Magnesium and magnesium-base alloys ..... do	40.8	100.8	27.0	75.5
333348	Zinc and zinc-base alloys ..... do	4.9	3.7	2.6	2.4
333909	Other nonferrous metals and alloys ..... do	16.9	32.5	14.2	28.0
	Nonferrous metal scrap, excluding home scrap:				
	Aluminum and aluminum-base alloys:				
190021	From other establishments of the same company ..... 1,000 s tons	395.9	497.5	327.4	363.8
190022	From all other sources ..... do	823.7	1 011.3	822.9	811.1
190024	Copper and copper-base alloys ..... do	(D)	(D)	[3]6.1	[3]11.5
	Aluminum and aluminum-base alloy mill shapes (rod, bar, sheets, etc.), except castings:				
335301	Sheets, plates, and foil ..... mil lb	747.7	634.4	591.0	522.4
335405	Extruded shapes ..... do	–	–		
335008	All other ..... do	–	–		
308007	Plastics products consumed in the form of sheets, rods, tubes, and other shapes	(X)	(D)	(X)	(NA)
970099	All other materials and components, parts, containers, and supplies	(X)	412.2	(X)	331.6
971000	Materials, parts, containers, and supplies, n.s.k.[2]	(X)	76.5	(X)	10.6
	INDUSTRY 3354, ALUMINUM EXTRUDED PRODUCTS				
	Materials, parts, containers, and supplies	**(X)**	**2 645.4**	**(X)**	**1 606.1**
	Nonferrous metals and alloys (ingot, pig, shot, etc.):				
333404	Aluminum, unalloyed ..... 1,000 s tons	506.4	606.1	290.5	343.1
333405	Aluminum-base alloys ..... do	[3]806.7	988.1	629.3	705.6
	Copper, unalloyed:				
333123	Cathodes ..... 1,000 s tons	–	–	(4)	(4)
333126	Ingot and ingot bar ..... do	(D)	(D)	(NA)	(NA)
333127	Other (including cakes, slabs, billets, etc.) ..... do	(D)	(D)	(Z)	(Z)
	Copper-base alloy raw materials:				
333128	Ingot and ingot bar ..... 1,000 s tons	(D)	(D)	(4)	(4)
333129	Other (including billets, shot, waffle, hardeners, etc.) ..... do	(D)	(D)	[4]5.9	[4]9.6
333984	Lead and lead-base alloys ..... do	(D)	(D)	(D)	(D)
333973	Magnesium and magnesium-base alloys ..... do	9.4	24.5	3.3	10.0
333971	Nickel and nickel-base alloys ..... do	(D)	(D)	(D)	(D)
333348	Zinc and zinc-base alloys ..... do	[3]3.7	3.3	1.9	1.8
333983	Tin and tin-base alloys ..... mil lb	(D)	(D)	(D)	(D)
333985	Vanadium and vanadium-base alloys ..... do	(D)	(D)	(D)	(D)
333987	Tungsten and tungsten-base alloys ..... do	–	–	(D)	(D)
333909	Other nonferrous metals and alloys ..... 1,000 s tons	5.0	8.9	3.8	35.7
	Nonferrous metal scrap, excluding home scrap:				
	Aluminum and aluminum-base alloys:				
190021	From other establishments of the same company ..... 1,000 s tons	134.6	153.8	86.8	108.4
190022	From all other sources ..... do	166.1	201.6	117.7	102.8
190024	Copper and copper-base alloys ..... do	3.5	2.7	21.5	(Z)
190026	Zinc and zinc-base alloys (including drosses and skimmings) ..... do	-	-		

See footnotes at end of table.

Table 3. Materials Consumed by Kind: 1987 and 1982—Con.

[Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see Cost of Materials in appendix. For meaning of abbreviations and symbols, see introductory text]

1987 material code	Material	1987 Quantity[1]	1987 Delivered cost (million dollars)	1982 Quantity[1]	1982 Delivered cost (million dollars)
	INDUSTRY 3354, ALUMINUM EXTRUDED PRODUCTS—Con.				
	Aluminum and aluminum-base alloy mill shapes (rod, bar, sheets, etc.), except castings:				
335301	Sheets, plates, and foil ..... mil lb	(*)	(*)	(*)	(*)
335405	Extruded shapes ..... do	(S)	104.7	9 174.3	43.6
335008	All other ..... do	*37.3	*31.5	*12.3	*14.9
308007	Plastics products consumed in the form of sheets, rods, tubes, and other shapes	(X)	(D)	(X)	(NA)
970099	All other materials and components, parts, containers, and supplies	(X)	261.9	(X)	163.9
971000	Materials, parts, containers, and supplies, n.s.k.[2]	(X)	255.6	(X)	77.8
	INDUSTRY 3355, ALUMINUM ROLLING AND DRAWING, N.E.C.				
	Materials, parts, containers, and supplies	**(X)**	**445.5**	**(X)**	**512.9**
	Nonferrous metals and alloys (ingot, pig, shot, etc.):				
333404	Aluminum, unalloyed ..... 1,000 s tons	(D)	(D)	140.8	196.1
333405	Aluminum-base alloys ..... do	(D)	(D)	87.5	131.2
	Nonferrous metal scrap, excluding home scrap:				
	Aluminum and aluminum-base alloys:				
190021	From other establishments of same company ..... 1,000 s tons	(D)	(D)	13.6	17.3
190022	From all other sources ..... do	(D)	(D)		
	Aluminum and aluminum-base alloy mill shapes (rods, bars, sheets, etc.), except castings:				
335301	Sheets, plates, and foil ..... mil lb	(D)	(D)	–	–
335405	Extruded shapes ..... do	(D)	(D)	–	–
335008	All other ..... do	–	–	.2	.7
970099	All other materials and components, parts, containers, and supplies	(X)	84.6	(X)	122.8
971000	Materials, parts, containers, and supplies, n.s.k.[2]	(X)	104.0	(X)	44.8
	INDUSTRY 3356, NONFERROUS ROLLING AND DRAWING, N.E.C.				
	Materials, parts, containers, and supplies	**(X)**	**1 642.2**	**(X)**	**2 160.4**
	Nonferrous metals and alloys (ingot, pig, shot, etc.):				
333404	Aluminum, unalloyed ..... 1,000 s tons	7.2	9.6	3.7	8.0
333405	Aluminum-base alloys ..... do				
	Copper, unalloyed:				
333123	Cathodes ..... 1,000 s tons	(D)	(D)	**.4	.7
333124	Wire bar ..... do	(D)	(D)		
333126	Ingot and ingot bar ..... do	(D)	(D)		
333127	Other (including cakes, slabs, billets, etc.) ..... do	(D)	(D)	4.7	13.0
	Copper-base alloy raw materials:				
333128	Ingot and ingot bar ..... 1,000 s tons	1.5	3.6	(*)	(*)
333129	Other (including billets, shot, waffle, hardeners, etc.) ..... do			(*)	(*)
333984	Lead and lead-base alloys ..... do	**16.5	12.4	44.2	26.1
333973	Magnesium and magnesium-base alloys ..... do	8.8	27.7	16.0	45.4
333971	Nickel and nickel-base alloys ..... do	*36.4	158.1	75.4	328.9
333348	Zinc and zinc-base alloys ..... do	(D)	(D)	(*)	(*)
333981	Molybdenum and molybdenum-base alloys ..... mil lb	4.1	15.9	.9	9.9
333983	Tin and tin-base alloys ..... do	7.9	24.3	1.4	8.6
333985	Vanadium and vanadium-base alloys ..... do	(D)	(D)	3.0	8.1
333987	Tungsten and tungsten-base alloys ..... do	(S)	4.7	*27.4	*28.4
333904	Precious metals and alloys (including gold, silver, and platinum metals) ..... 1,000 troy ounces	3 144.8	461.3	78.6	1 345.5
333909	Other nonferrous metals and alloys ..... 1,000 s tons	**43.4	266.3		
	Nonferrous metal scrap, excluding home scrap:				
	Aluminum and aluminum-base alloys:				
190021	From other establishments of the same company ..... 1,000 s tons	–	–	(D)	(7)
190022	From all other sources ..... do	(D)	(D)	–	–
190025	Lead and lead-base alloys (including antimonial lead scrap) ..... do	(D)	(D)	(D)	(7)
190024	Copper and copper-base alloys ..... do	(D)	(D)	–	–
	Aluminum and aluminum-base alloy mill shapes (rod, bar, sheet, etc.), except castings:				
335301	Sheets, plates, and foil ..... mil lb	(Z)	(Z)	–	–
335405	Extruded shapes ..... do	–	–	(Z)	–
335008	All other ..... do	(D)	(D)	–	–
335100	Brass mill shapes (rod, bar, sheet, etc.) ..... 1,000 s tons	1.6	1.3	(D)	(7)
970099	All other materials and components, parts, containers, and supplies	(X)	439.2	(X)	7327.6
971000	Materials, parts, containers, and supplies, n.s.k.[2]	(X)	172.8	(X)	10.2
	INDUSTRY 3357, NONFERROUS WIREDRAWING AND INSULATING				
	Materials, parts, containers, and supplies	**(X)**	**6 218.7**	**(X)**	**4 982.1**
333102	Copper cathodes ..... mil lb	341.2	256.6	175.4	155.1
333125	Copper and copper-base alloy wire bar ..... do	36.9	32.1	44.6	35.4
	Nonferrous metal mill shapes and forms (except castings and forgings):				
	Rods:				
335009	Aluminum and aluminum-base alloys ..... mil lb	530.9	351.9	424.9	306.0
335133	Copper, unalloyed ..... do	2 047.3	1 698.0	*1 320.5	1 019.1
335135	Copper-base alloys ..... do	*121.5	97.7	*128.0	116.1

See footnotes at end of table.

Table 3. **Materials Consumed by Kind: 1987 and 1982**—Con.

[Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see Cost of Materials in appendix. For meaning of abbreviations and symbols, see introductory text]

1987 material code	Material	1987 Quantity[1]	1987 Delivered cost (million dollars)	1982 Quantity[1]	1982 Delivered cost (million dollars)
	INDUSTRY 3357, NONFERROUS WIREDRAWING AND INSULATING—Con.				
	Nonferrous metal mill shapes and forms (except castings and forgings)—Con.				
	Wire for redrawing:				
335511	Aluminum and aluminum-base alloys ..... mil lb	15.5	20.3	105.2	110.4
335112	Copper and copper-base alloys ..... do	161.2	151.8	*389.6	260.4
335608	Other ..... do	21.1	26.8	20.6	17.7
	Bare wire (except wire for redrawing):				
335725	Copper and copper-base alloys (electrical) ..... mil lb	750.2	285.1	494.2	448.5
335718	Aluminum and aluminum-base alloys ..... do	**72.5	58.4	93.3	74.4
	All other mill shapes and forms:				
335109	Copper and copper-base alloys (including mechanical wire) ..... mil lb	(S)	16.8	**40.5	49.8
335007	Aluminum and aluminum-base alloys ..... do	42.3	42.2	58.7	69.8
335609	Other ..... do	62.8	24.5	**67.2	58.3
335794	Insulated copper wire and cable for further processing (copper content) ..... do	(S)	17.2	**64.9	65.1
333121	Refined unalloyed copper (except wire bar, cathodes, ingot, cakes, slabs, etc.) ..... 1,000 s tons	(D)	(D)	5.4	30.7
333976	Refined unalloyed tin ..... do	*1.5	6.6		
333113	Copper-base alloy raw materials (ingot, billets, shot, waffle, and hardeners) ..... do	(D)	(D)	(S)	24.7
190024	Copper and copper-base alloy scrap ..... do	(D)	(D)	27.0	17.0
083111	Natural rubber ..... mil lb	(D)	(D)	(S)	15.2
282202	Synthetic rubber ..... do	*65.0	93.0	*71.8	67.5
308981	Fiberglass insulating materials ..... do	(S)	6.5	(NA)	(NA)
282104	Plastics resins consumed in the form of granules, pellets, powder, liquid, etc., except sheets, rods, tubes, and shapes ..... do	*1 155.2	728.3	*1 097.6	622.8
308007	Plastics products consumed in the form of sheets, rods, tubes, and other shapes	(X)	25.7	(X)	(NA)
228102	Cotton yarns ..... do	4.5	13.0	*2.4	7.3
970099	All other materials and components, parts, containers, and supplies	(X)	1 226.5	(X)	1 177.6
971000	Materials, parts, containers, and supplies, n.s.k.[2]	(X)	920.6	(X)	232.2
	INDUSTRY 3398, METAL HEAT TREATING				
	(Materials data were not collected for this industry.)				
	INDUSTRY 3399, PRIMARY METAL PRODUCTS, N.E.C.				
	(Materials data were not collected for this industry.)				

[1]For some establishments, data have been estimated from central unit values which are based on quantity-cost relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * 10 to 19 percent estimated; ** 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[2]Total cost of materials of establishments that did not report detailed materials data, including establishments that were not mailed a form.

[3]For 1982, material codes 333126, 333127, 333128, and 333129 were included with material code 190024.

[4]For 1982, material codes 333123 and 333128 were combined with material code 333129 to avoid disclosing data for individual companies.

[5]For 1987 and 1982, material code 335301 is combined with material code 335008 to avoid disclosing data for individual companies.

[6]For 1982, material codes 333126, 333129, and 333348 were combined with material code 333987 to avoid disclosing data for individual companies.

[7]For 1982, material codes 190021, 190025, and 335100 were combined with material code 970099 to avoid disclosing data for individual companies.

APPENDIX
Scope and Coverage and Explanation of Terms

GENERAL

The 1987 Census of Manufactures is the 32nd census of manufacturing establishments conducted in the United States. For 1987, it was conducted as part of the economic censuses, which included the censuses of mineral industries, construction industries, retail and wholesale trades, service industries, selected transportation activities, and minority-owned and women-owned businesses, under authority of title 13 of the United States Code. Title 13 specifies that an economic census be conducted every 5 years to cover years ending in 2 and 7.

SCOPE AND COVERAGE

Establishment Basis of Reporting

The census of manufactures is conducted on an establishment basis. All manufacturing establishments with one paid employee or more at any time during the year are covered by the census of manufactures. Therefore, a company operating at more than one location is required to file a separate report for each location. This report excludes information for separately operated administrative offices, warehouses, garages, and other auxiliary units which service manufacturing establishments of the same company. Where these auxiliary operations are conducted at the same location as the manufacturing operation, they are usually included in the report for the operating manufacturing establishment.

Use of Administrative Records

From a universe of approximately 350,000 manufacturing establishments in the 1987 Census of Manufactures, approximately 150,000 small single-establishment companies were excused from filing reports. Selection of the small establishment nonmail cases was done on an industry-by-industry basis. A variable cutoff was used to determine those establishments for which administrative records were to be used in place of a census report. The cutoffs were selected so the administrative-record cases would account for approximately 3 percent or less of the value of shipments for the industry. These cutoffs were then adjusted so that all single-establishment companies with less than 5 employees were excluded from the mail canvass, while all establishments with more than 20 employees were included. Where establishments in the 5 to 20 employee size range were included in the mail canvass, an abbreviated census form was frequently used.

For these nonmail establishments, (and a small number of larger establishment whose reports were not received at the time the data were tabulated) data on employment, payroll, and receipts were obtained from administrative records of other government agencies rather than from census forms. The administrative-record information was then used in conjunction with industry averages to estimate the data for these establishments. The value of shipments and cost of materials were not distributed among specific products and materials but were included in the product and material "not specified by kind" (n.s.k.) categories.

EXPLANATION OF TERMS

Number of establishments and companies–A separate report was required for each manufacturing establishment (plant) with one employee or more. An establishment is defined as a single physical location where manufacturing is performed. A company, on the other hand, is defined as a business organization consisting of one establishment or more under common ownership or control.

All employees–Includes all full-time and part-time employees on the payrolls at any time during the year. Included are all persons on paid sick leave, paid holidays, and paid vacations. Officers of corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The "all employees" number is the average number of production workers plus the number of other employees in mid-March. The number of production workers is the average of those for midmonth payroll periods of March, May, August, and November.

Production workers–Includes workers up through the working-supervisor level engaged in fabricating, processing, assembling, inspecting, receiving, packing, warehousing, shipping (but not delivering), maintenance, repair, janitorial, guard services, product development, auxiliary production for plant's own use (e.g., powerplant), recordkeeping, and other closely associated services. Truckdrivers delivering ready-mixed concrete are also included in production workers.

Other employees–Includes nonproduction personnel, including those engaged in the following activities: supervision above working-supervisor level, sales (including driver/salespersons), sales delivery (truckdrivers and helpers), advertising, credit collection, installation and

servicing of own product, clerical and routine office functions, executive, purchasing, finance, legal, personnel (including cafeteria, etc.), professional, and technical employees.

Payroll–Includes the gross earnings for the "employees" defined above, such as salaries, wages, commissions, dismissal pay, bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. Respondents were told that in reporting they could follow the definition of payrolls used for calculating the Federal withholding tax.

Production-worker hours–Covers hours worked or paid for at the plant, including actual overtime hours (not straight-time equivalent hours). It excludes hours paid for vacations, holidays, or sick leave when the employee was not at the plant.

Cost of materials–Refers to direct charges actually paid or payable for items consumed or put into production during the year, including freight charges and other direct charges incurred by the establishment in acquiring these materials. It includes the cost of materials or fuels consumed, regardless of whether they were purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.

The important components of this cost item are (a) all raw materials, semifinished goods, parts, containers, scrap, and supplies put into production or used as operating supplies and for repair and maintenance during the year; (b) electric energy purchased; (c) fuels consumed for heat, power, or generating electricity; (d) work done by others on materials or parts furnished by manufacturing establishments (contract work); and (e) products bought and resold in the same condition.

Specific materials consumed (table 3)–In addition to the total cost of materials which every establishment was required to report, information was also collected for most manufacturing industries on the consumption of major materials used in manufacturing. These inquiries were restricted to those materials which were important parts of the cost of production in a particular industry and for which cost information was available from manufacturers' records. Establishments consuming less than a specified amount (usually $10,000) of a specific material were not requested to report consumption of that material separately. Also, the cost of materials for the small establishments for which administrative records were used was estimated as "not specified by kind" (n.s.k.).

Value of shipments and other receipts–Generally refers to received or receivable net selling values, f.o.b. plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts such as receipts for contract work performed for others, installation and repair receipts, sale of scrap, and sale of products bought and resold without further processing. Included are all items made by or for the establishment from materials owned by it whether sold, transferred to other plants of the same company, or shipped on consignment. The net selling value of products made in one plant on a contract basis from materials owned by another was reported by the plant providing the materials.

In a few industries, the value of production or value of work completed is used instead of value of shipments. These industries are identified in the introduction and are footnoted in table 1.

In the case of multiunit companies, the manufacturer was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, that is, including not only the direct costs of production but also a reasonable proportion of "all other costs" (including company overhead and profit).

Shipments or production of individual products (table 2)–In the 1987 census, detailed shipment information was collected for approximately 11,000 individual products. These products are identified by a seven-digit code and are grouped into approximately 1,500 classes of products, which in turn are primary to 459 four-digit industries. Data at the five-digit product-class level have been collected each year as part of the annual survey of manufactures. Information at the seven-digit level, collected for many industries in the current industrial reports program, is not included in this table.

Value added by manufacture–This measure of manufacturing activity is derived by subtracting the cost of materials, supplies, containers, fuel, purchased electricity, and contract work from the value of shipments for products manufactured plus receipts for services rendered. The result of this calculation is then adjusted by the addition of value added by merchandising operations (that is, the difference between the sales value and cost of merchandise sold without further manufacturing, processing, or assembly) plus the net change in finished goods and work-in-process inventories between the beginning and end of the year.

For those industries where value of production is collected instead of value of shipments (see footnote in table 1), value added is adjusted only for the change in work-in-process inventories between the beginning and end of the year. For those industries where value of work done is collected, the value added does not include an adjustment for the change in finished goods or work-in-process inventories.

Value added avoids the duplication in the figure for value of shipments which results from the use of products of some establishments as materials by others. Value

added is considered to be the best value measure available for comparing the relative economic importance of manufacturing among industries and geographic areas.

Expenditures for new plant and equipment–Establishments in operation and any known plants under construction were asked to report their expenditures for (a) permanent additions and major alterations to manufacturing establishments and (b) new machinery and equipment used for replacement and additions to plant capacity if they are of the type for which depreciation accounts are ordinarily maintained.

These totals exclude expenditures for used plant and equipment, expenditures for land, and cost of maintenance and repairs charged as current operating expenses. Data for used plant and equipment will be published in the final industry bulletin.

End-of-year inventories–Comprised of (a) finished products; (b) work-in-process; and (c) materials, supplies, fuels, etc. Beginning in 1982, respondents were asked to report their inventories at (the lower of) cost or market prior to adjustment to LIFO cost. This is a change from prior years in which respondents were permitted to value their inventories using any generally accepted accounting method. Therefore, 1982 through 1987 data for inventories are not strictly comparable to prior-year data.

Specialization and coverage ratios–An establishment is classified in a particular industry if its shipments of primary products of the industry exceed in value its shipments of the products of any other single industry. An establishments' shipments include those products assigned to an industry (primary products), those considered primary to other industries (secondary products), and receipts for miscellaneous activities (merchandising, contract work, resales, etc.). The following ratios have been developed to measure the relationship of primary product shipments to the data on shipments for the industry shown in table 1 and data on product shipments shown in table 2.

Specialization ratio–Represents the ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for the establishments classified in the industry.

Coverage ratio–Represents the ratio of primary products shipped by the establishments classified in the industry to the total shipments of such products that are shipped by all manufacturing establishments, wherever classified.

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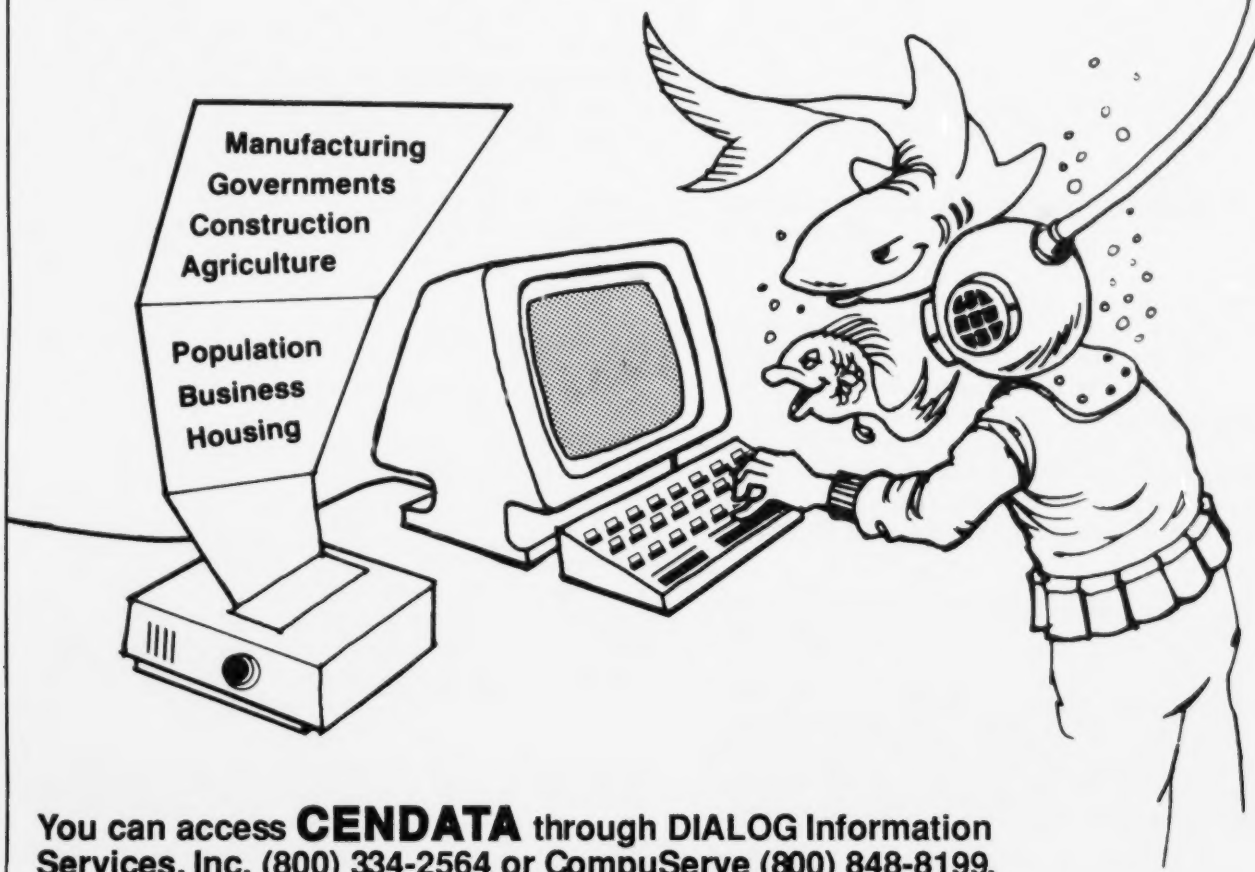

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